INTERNATIONAL MARITIME ORGANIZATION

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MARINE ENVIRONMENT PROTECTION COMMITTEE
64th session
Agenda item 23

MEPC 64/23/Add.1
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REPORT OF THE MARINE ENVIRONMENT PROTECTION COMMITTEE ON ITS SIXTY-FOURTH SESSION

Attached are annexes 12 to 29 to the report of the Marine Environment Protection Committee on its sixty-fourth session (MEPC 64/23).

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ANNEX 12

RESOLUTION MEPC.225(64)

Adopted on 5 October 2012

2012 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 functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

RECALLING ALSO resolution MEPC.19(22) by which the Committee adopted the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code),

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 confer 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),

CONSIDERING that it is highly desirable for the provisions of the IBC Code, which are mandatory under both MARPOL and the 1974 SOLAS Convention, to remain identical,

HAVING CONSIDERED the proposed amendments to the IBC Code,

1. ADOPTS, in accordance with article 16(2)(b), (c) and (d) of the 1973 Convention, the 2012 amendments to the IBC Code, the text of which is set out at the annex to the present resolution;

2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the 2012 amendments to the IBC Code shall be deemed to have been accepted on 1 December 2013 unless, prior to that date, not less than one-third of the Parties or Parties, the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the 2012 amendments to the IBC Code shall enter into force on 1 June 2014 upon 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 MARPOL certified copies of the present resolution and the text of the 2012 amendments to the IBC Code contained in the annex; and

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

ANNEX

The existing text of chapters 17, 18 and 19 of the IBC Code is replaced by the following:

Chapter 17

Summary of minimum requirements

Mixtures of noxious liquid substances presenting pollution hazards only, and which are assessed or provisionally assessed under regulation 6.3 of MARPOL Annex II, may be carried under the requirements of the Code applicable to the appropriate position of the entry in this chapter for Noxious Liquid Substances, not otherwise specified (n.o.s.).

EXPLANATORY NOTES

Product name *(column a)*	The product name shall be used in the shipping document for any cargo offered for bulk shipments. Any additional name may be included in brackets after the product name. In some cases, the product names are not identical with the names given in previous issues of the Code
UN Number *(column b)*	Deleted
Pollution Category *(column c)*	The letter X, Y, Z means the Pollution Category assigned to each product under MARPOL Annex II
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 (2.1.2.1) 2: ship type 2 (2.1.2.2) 3: ship type 3 (2.1.2.3)
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)*	Cont.: controlled venting Open: open venting
Tank environmental control *(column h)*	Inert: inerting (9.1.2.1) Pad: liquid or gas padding (9.1.2.2) Dry: drying (9.1.2.3) Vent: natural or forced ventilation (9.1.2.4) No: no special requirements under this Code
Electrical equipment *(column i)*	Temperature classes (i') T1 to T6 – indicates no requirements blank no information Apparatus group (i'') IIA, IIB or IIC: – indicates no requirements blank no information Flashpoint (i''') Yes: flashpoint exceeding 60°C (10.1.6) No: flashpoint not exceeding 60°C (10.1.6) NF: non-flammable product (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)
Vapour detection *(column k)*	F: flammable vapours T: toxic vapours No: indicates no special requirements under this Code
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)*	Deleted
Emergency equipment *(column n)*	Yes: see 14.3.1 No: no special requirements under this Code
Specific and operational requirements *(column o)*	When specific reference is made to chapters 15 and/or 16, these requirements shall be additional to the requirements in any other column

Note: The following pages are numbered according to the database generation.

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Acetic acid	Z	S/P	3	2G	Cont	No	T1	IIA	No	R	F	A	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.19.6, 16.2.9
Acetic anhydride	Z	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	A	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.19.6
Acetochlor	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Acetone cyanohydrin	Y	S/P	2	2G	Cont	No	T1	IIA	Yes	C	T	A	Yes	15.12, 15.13,15.17, 15.18, 15.19, 16.6.1, 16.6.2, 16.6.3
Acetonitrile	Z	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	A	No	15.12, 15.19.6
Acetonitrile (Low purity grade)	Y	S/P	3	2G	Cont	No	T1	IIA	No	R	FT	AC	No	15.12.3, 15.12.4, 15.19.6
Acid oil mixture from soyabean, corn (maize) and sunflower oil refining	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Acrylamide solution (50% or less)	Y	S/P	2	2G	Open	No			NF	C	No	No	No	15.12.3, 15.13, 15.19.6, 16.2.9, 16.6.1
Acrylic acid	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	A	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.13, 15.17, 15.19, 16.2.9, 16.6.1
Acrylonitrile	Y	S/P	2	2G	Cont	No	T1	IIB	No	C	FT	A	Yes	15.12, 15.13, 15.17, 15.19
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Adiponitrile	Z	S/P	3	2G	Cont	No		IIB	Yes	R	T	A	No	16.2.9
Alachlor technical (90% or more)	X	S/P	2	2G	Open	No			Yes	O	No	AC	No	15.19.6, 16.2.9
Alcohol (C9-C11) poly (2.5-9) ethoxylate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Alcohol (C6-C17) (secondary) poly(3-6)ethoxylates	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Alcohol (C6-C17) (secondary) poly(7-12)ethoxylates	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Alcohol (C12-C16) poly(1-6)ethoxylates	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Alcohol (C12-C16) poly(20+)ethoxylates	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Alcohol (C12-C16) poly(7-19)ethoxylates	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Alcohols (C13+)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
Alcohols (C12+), primary, linear	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Alcohols (C8-C11), primary, linear and essentially linear	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6, 16.2.6, 16.2.9
Alcohols (C12-C13), primary, linear and essentially linear	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Alcohols (C14-C18), primary, linear and essentially linear	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6
Alkanes (C6-C9)	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Iso- and cyclo-alkanes (C10-C11)	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Iso- and cyclo-alkanes (C12+)	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	
Alkanes(C10-C26), linear and branched, (flashpoint >60°C)	Y	S/P	3	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6

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n-Alkanes (C10+)	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Alkaryl polyethers (C9-C20)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Alkenoic acid, polyhydroxy ester borated	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6, 16.2.6
Alkenyl (C11+) amide	X	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Alkenyl (C16-C20) succinic anhydride	Z	S/P	3	2G	Cont	No			Yes	C	T	No	Yes	15.12, 15.17, 15.19
Alkyl acrylate-vinylpyridine copolymer in toluene	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	A	No	15.19.6, 16.2.9
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomers)	X	S/P	1	2G	Cont	No	T1	IIA	Yes	C	T	ABC	No	15.12, 15.17, 15.19
Alkylated (C4-C9) hindered phenols	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	BD	No	15.19.6, 16.2.6, 16.2.9
Alkylbenzene, alkylindane, alkylindene mixture (each C12-C17)	Z	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Alkyl benzene distillation bottoms	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6
Alkylbenzene mixtures (containing at least 50% of toluene)	Y	S/P	3	2G	Cont	No	T1	IIA	No	C	FT	ABC	No	15.12, 15.17, 15.19.6
Alkyl (C3-C4) benzenes	Y	P	2	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Alkyl (C5-C8) benzenes	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Alkyl(C9+)benzenes	Y	P	3	2G	Open	No	-	-	Yes	O	No	AB	No	
Alkyl (C11-C17) benzene sulphonic acid	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Alkylbenzene sulphonic acid, sodium salt solution	Y	S/P	2	2G	Open	No	-	-	NF	O	No	No	No	15.19.6, 16.2.6, 16.2.9
Alkyl (C12+) dimethylamine	X	S/P	1	2G	Cont	No	-	-	Yes	C	T	BCD	Yes	15.12, 15.17, 15.19
Alkyl dithiocarbamate (C19-C35)	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Alkyldithiothiadiazole (C6-C24)	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Alkyl ester copolymer (C4-C20)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Alkyl (C8-C10)/(C12-C14):(40% or less/60% or more) polyglucoside solution (55% or less)	Y	P	3	2G	Open	No			Yes	O	No	No	No	15.19.6, 16.2.6, 16.2.9
Alkyl (C8-C10)/(C12-C14):(60% or more/40% or less) polyglucoside solution(55% or less)	Y	P	3	2G	Open	No			Yes	O	No	No	No	16.2.6, 16.2.9
Alkyl (C7-C9) nitrates	Y	S/P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 15.20, 16.6.1, 16.6.2, 16.6.3
Alkyl(C7-C11)phenol poly(4-12) ethoxylate	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Alkyl (C8-C40) phenol sulphide	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Alkyl (C8-C9) phenylamine in aromatic solvents	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	A	No	15.19.6
Alkyl (C9-C15) phenyl propoxylate	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Alkyl (C8-C10) polyglucoside solution (65% or less)	Y	P	3	2G	Open	No			Yes	O	No	No	No	16.2.6
Alkyl (C8-C10)/(C12-C14):(50%/50%) polyglucoside solution (55% or less)	Y	P	3	2G	Open	No			Yes	O	No	No	No	16.2.6, 16.2.9

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Alkyl (C12-C14) polyglucoside solution (55% or less)	Y	P	3	2G	Open	No			Yes	O	No	No	No	15.19.6, 16.2.9
Alkyl(C12-C16) propoxyamine ethoxylate	X	S/P	2	2G	Cont	No	-	-	Yes	C	T	AC	Yes	15.12, 15.17, 15.19, 16.2.6
Alkyl(C10-C20, saturated and unsaturated) phosphite	Y	P	2	2G	Open	No			Yes	O	No	A	No	16.2.9
Alkyl sulphonic acid ester of phenol	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Alkyl (C18+) toluenes	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.9
Alkyl(C18-C28)toluenesulfonic acid	Y	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.17, 15.19, 16.2.6, 16.2.9
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, borated	Y	S/P	3	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19, 16.2.6
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, low overbase	Y	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19, 16.2.6
Alkyl (C18-C28) toluenesulphonic acid, calcium salts, high overbase	Y	S/P	3	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19, 16.2.6
Allyl alcohol	Y	S/P	2	2G	Cont	No	T2	IIB	No	C	FT	A	Yes	15.12, 15.17, 15.19
Allyl chloride	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	A	Yes	15.12, 15.17, 15.19
Aluminium chloride/Hydrogen chloride solution	Y	S/P	2	2G	Cont	No	-	-	NF	C	T	No	Yes	15.11, 15.12, 15.17, 15.19
Aluminium sulphate solution	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
2-(2-Aminoethoxy) ethanol	Z	S/P	3	2G	Open	No			Yes	O	No	AD	No	15.19.6
Aminoethyldiethanolamine/Aminoethylethanolamine solution	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Aminoethyl ethanolamine	Z	S/P	3	2G	Open	No	T2	IIA	Yes	O	No	A	No	
N-Aminoethylpiperazine	Z	S/P	3	2G	Cont	No			Yes	R	T	A	No	15.19.6, 16.2.9
2-Amino-2-methyl-1-propanol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Ammonia aqueous (28% or less)	Y	S/P	2	2G	Cont	No			NF	R	T	ABC	Yes	15.19.6
Ammonium chloride solution (less than 25%) (*)	Z	S/P	3	2G	Open	No	-	-	NF	O	No	No	No	
Ammonium hydrogen phosphate solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Ammonium lignosulphonate solutions	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Ammonium nitrate solution (93% or less)	Z	S/P	2	1G	Open	No			NF	O	No	No	No	15.2, 15.11.4, 15.11.6, 15.18, 15.19.6, 16.2.9
Ammonium polyphosphate solution	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	
Ammonium sulphate solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Ammonium sulphide solution (45% or less)	Y	S/P	2	2G	Cont	No	T4	IIB	No	C	FT	A	Yes	15.12, 15.17, 15.19, 16.6.1, 16.6.2, 16.6.3
Ammonium thiosulphate solution (60% or less)	Z	P	3	2G	Open	No			NF	O	No	No	No	16.2.9
Amyl acetate (all isomers)	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
n-Amyl alcohol	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	AB	No	
Amyl alcohol, primary	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	AB	No	

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sec-Amyl alcohol	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	AB	No	
tert-Amyl alcohol	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	
tert-Amyl methyl ether	X	P	2	2G	Cont	No	T2	IIB	No	R	F	A	No	15.19.6
Aniline	Y	S/P	2	2G	Cont	No	T1	IIA	Yes	C	T	A	No	15.12, 15.17, 15.19
Aryl polyolefins (C11-C50)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95 - 120°C)	X	P	2	2G	Cont	No	T4	IIA	No	R	F	B	No	15.19.6
Barium long chain (C11-C50) alkaryl sulphonate	Y	S/P	2	2G	Open	No			Yes	O	No	AD	No	15.12.3, 15.19, 16.2.6, 16.2.9
Benzene and mixtures having 10% benzene or more (i)	Y	S/P	3	2G	Cont	No	T1	IIA	No	C	FT	AB	No	15.12.1, 15.17, 15.19.6, 16.2.9
Benzene sulphonyl chloride	Z	S/P	3	2G	Cont	No			Yes	R	T	AD	No	15.19.6, 16.2.9
Benzenetricarboxylic acid, trioctyl ester	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Benzyl acetate	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Benzyl alcohol	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Benzyl chloride	Y	S/P	2	2G	Cont	No	T1	IIA	Yes	C	T	AB	Yes	15.12, 15.13, 15.17, 15.19
Bio-fuel blends of Diesel/gas oil and Alkanes (C10-C26), linear and branched with a flashpoint >60°C (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	No	15.12, 15.17, 15.19.6
Bio-fuel blends of Diesel/gas oil and Alkanes (C10-C26), linear and branched with a flashpoint Ò60ÁC (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	T3	IIA	No	C	FT	ABC	No	15.12, 15.17, 15.19.6
Bio-fuel blends of Diesel/gas oil and FAME (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	No	15.12, 15.17, 15.19.6
Bio-fuel blends of Diesel/gas oil and vegetable oil (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	No	15.12, 15.17, 15.19.6
Bio-fuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	T3	IIA	No	C	FT	A	No	15.12, 15.17, 15.19.6
Brake fluid base mix: Poly(2-8)alkylene (C2-C3) glycols/Polyalkylene (C2-C10) glycols monoalkyl (C1-C4) ethers and their borate esters	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	
Bromochloromethane	Z	S/P	3	2G	Cont	No			NF	R	T	No	No	
Butene oligomer	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Butyl acetate (all isomers)	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Butyl acrylate (all isomers)	Y	S/P	2	2G	Cont	No	T2	IIB	No	R	FT	A	No	15.13, 15.19.6, 16.6.1, 16.6.2
tert-Butyl alcohol	Z	P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	
Butylamine (all isomers)	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	A	Yes	15.12, 15.17, 15.19.6
Butylbenzene (all isomers)	X	P	2	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Butyl benzyl phthalate	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Butyl butyrate (all isomers)	Y	P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	15.19.6
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	Y	S/P	2	2G	Cont	No			Yes	R	No	AD	No	15.13, 15.19.6, 16.6.1, 16.6.2

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Butylene glycol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
1,2-Butylene oxide	Y	S/P	3	2G	Cont	Inert	T2	IIB	No	R	F	AC	No	15.8.1 to 15.8.7, 15.8.12, 15.8.13, 15.8.16, 15.8.17, 15.8.18, 15.8.19, 15.8.21, 15.8.25, 15.8.27, 15.8.29, 15.19.6
n-Butyl ether	Y	S/P	3	2G	Cont	Inert	T4	IIB	No	R	FT	A	No	15.4.6, 15.12, 15.19.6
Butyl methacrylate	Z	S/P	3	2G	Cont	No	T1	IIA	No	R	FT	AD	No	15.13, 15.19.6, 16.6.1, 16.6.2
n-Butyl propionate	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Butyraldehyde (all isomers)	Y	S/P	3	2G	Cont	No	T3	IIA	No	R	FT	A	No	15.19.6
Butyric acid	Y	S/P	3	2G	Cont	No			Yes	R	No	A	No	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.19.6
gamma-Butyrolactone	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6
Calcium alkaryl sulphonate (C11-C50)	Z	S/P	3	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19
Calcium alkyl (C10-C28) salicylate	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6, 16.2.9
Calcium hydroxide slurry	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Calcium hypochlorite solution (15% or less)	Y	S/P	2	2G	Cont	No			NF	R	No	No	No	15.19.6
Calcium hypochlorite solution (more than 15%)	X	S/P	1	2G	Cont	No			NF	R	No	No	No	15.19, 16.2.9
Calcium lignosulphonate solutions	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Calcium long-chain alkyl(C5-C10) phenate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Calcium long-chain alkyl(C11-C40) phenate	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Calcium long-chain alkyl phenate sulphide (C8-C40)	Y	S/P	2	2G	Open	No			Yes	O	No	ABC	No	15.19.6, 16.2.6
Calcium long-chain alkyl salicylate (C13+)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Calcium long-chain alkyl (C18-C28) salicylate	Y	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19, 16.2.6, 16.2.9
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
epsilon-Caprolactam (molten or aqueous solutions)	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Carbolic oil	Y	S/P	2	2G	Cont	No			Yes	C	FT	A	No	15.12, 15.19.6, 16.2.9
Carbon disulphide	Y	S/P	2	1G	Cont	Pad+inert	T6	IIC	No	C	FT	C	Yes	15.3, 15.12, 15.19
Carbon tetrachloride	Y	S/P	2	2G	Cont	No			NF	C	T	No	Yes	15.12, 15.17, 15.19.6
Cashew nut shell oil (untreated)	Y	S/P	2	2G	Cont	No			Yes	R	T	AB	No	15.19.6, 16.2.6, 16.2.9
Castor oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Cesium formate solution (*)	Y	S/P	3	2G	Open	No	-	-	NF	O	No	No	No	15.19.6
Cetyl/Eicosyl methacrylate mixture	Y	S/P	2	2G	Open	No			Yes	O	No	AD	No	15.13, 15.19.6, 16.2.9, 16.6.1, 16.6.2
Chlorinated paraffins (C10-C13)	X	P	1	2G	Open	No			Yes	O	No	A	No	15.19, 16.2.6

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Chlorinated paraffins (C14-C17) (with 50% chlorine or more, and less than 1% C13 or shorter chains)	X	P	1	2G	Open	No	-	-	Yes	O	No	A	No	15.19
Chloroacetic acid (80% or less)	Y	S/P	2	2G	Cont	No			NF	C	No	No	No	15.11.2, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.19, 16.2.9
Chlorobenzene	Y	S/P	2	2G	Cont	No	T1	IIA	No	R	FT	AB	No	15.19.6
Chloroform	Y	S/P	3	2G	Cont	No			NF	R	T	No	Yes	15.12, 15.19.6
Chlorohydrins (crude)	Y	S/P	2	2G	Cont	No	T3	IIA	No	C	FT	A	No	15.12, 15.19
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	Y	P	2	2G	Open	No			NF	O	No	No	No	15.19.6,16.2.9
o-Chloronitrobenzene	Y	S/P	2	2G	Cont	No			Yes	C	T	ABD	No	15.12, 15.17, 15.18, 15.19, 16.2.6, 16.2.9
1-(4-Chlorophenyl)-4,4- dimethyl-pentan-3-one	Y	P	2	2G	Open	No			Yes	O	No	ABD	No	15.19.6, 16.2.6, 16.2.9
2- or 3-Chloropropionic acid	Z	S/P	3	2G	Open	No			Yes	O	No	A	No	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 16.2.9
Chlorosulphonic acid	Y	S/P	1	2G	Cont	No			NF	C	T	No	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.5, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.16.2, 15.19
m-Chlorotoluene	Y	S/P	2	2G	Cont	No	T4	IIA	No	R	FT	AB	No	15.19.6
o-Chlorotoluene	Y	S/P	2	2G	Cont	No	T1	IIA	No	R	FT	AB	No	15.19.6
p-Chlorotoluene	Y	S/P	2	2G	Cont	No	T1	IIA	No	R	FT	AB	No	15.19.6, 16.2.9
Chlorotoluenes (mixed isomers)	Y	S/P	2	2G	Cont	No	T4	IIA	No	R	FT	AB	No	15.19.6
Choline chloride solutions	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Citric acid (70% or less)	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Coal tar	X	S/P	2	2G	Cont	No	T2	IIA	Yes	R	No	BD	No	15.19.6, 16.2.6, 16.2.9
Coal tar naphtha solvent	Y	S/P	2	2G	Cont	No	T3	IIA	No	R	FT	AD	No	15.19.6, 16.2.9
Coal tar pitch (molten)	X	S/P	2	1G	Cont	No	T2	IIA	Yes	R	No	BD	No	15.19.6, 16.2.6, 16.2.9
Cocoa butter	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Coconut oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Coconut oil fatty acid	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Coconut oil fatty acid methyl ester	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Copper salt of long chain (C17+) alkanoic acid	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Corn Oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Cotton seed oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Creosote (coal tar)	X	S/P	2	2G	Cont	No	T2	IIA	Yes	R	T	AD	No	15.12.3, 15.12.4, 15.19.6, 16.2.6, 16.2.9
Cresols (all isomers)	Y	S/P	2	2G	Open	No	T1	IIA	Yes	O	No	AB	No	15.19.6, 16.2.9
Cresylic acid, dephenolized	Y	S/P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6

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Cresylic acid, sodium salt solution	Y	S/P	2	2G	Open	No			Yes	O	No	No	No	15.19.6, 16.2.9
Crotonaldehyde	Y	S/P	2	2G	Cont	No	T3	IIB	No	R	FT	A	Yes	15.12, 15.17, 15.19.6
1,5,9-Cyclododecatriene	X	S/P	1	2G	Cont	No			Yes	R	T	A	No	15.13, 15.19, 16.6.1, 16.6.2
Cycloheptane	X	P	2	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Cyclohexane	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6, 16.2.9
Cyclohexanol	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
Cyclohexanone	Z	S/P	3	2G	Cont	No	T2	IIA	No	R	FT	A	No	15.19.6
Cyclohexanone, Cyclohexanol mixture	Y	S/P	3	2G	Cont	No			Yes	R	FT	A	No	15.19.6
Cyclohexyl acetate	Y	P	3	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Cyclohexylamine	Y	S/P	3	2G	Cont	No	T3	IIA	No	R	FT	AC	No	15.19.6
1,3-Cyclopentadiene dimer (molten)	Y	P	2	2G	Cont	No	T1	IIB	No	R	F	A	No	15.19.6, 16.2.6, 16.2.9
Cyclopentane	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Cyclopentene	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
p-Cymene	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Decahydronaphthalene	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	AB	No	15.19.6
Decanoic acid	X	P	2	2G	Open	No			Yes	O	No	A	No	16.2.9
Decene	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Decyl acrylate	X	S/P	1	2G	Open	No	T3	IIA	Yes	O	No	ACD	No	15.13, 15.19, 16.6.1, 16.6.2
Decyl alcohol (all isomers)	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9(e)
Decyl/Dodecyl/Tetradecyl alcohol mixture	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6, 16.2.9
Decyloxytetrahydrothiophene dioxide	X	S/P	2	2G	Cont	No			Yes	R	T	A	No	15.19.6, 16.2.9
Diacetone alcohol	Z	P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	
Dialkyl (C8-C9) diphenylamines	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Dialkyl (C7-C13) phthalates	X	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Dialkyl (C9 - C10) phthalates	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6
Dialkyl thiophosphates sodium salts solution	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	AC	No	15.12.3, 15.12.4, 15.19.6, 16.2.9
Dibromomethane	Y	S/P	2	2G	Cont	No			NF	R	T	No	No	15.12.3, 15.19
Dibutylamine	Y	S/P	3	2G	Cont	No	T2	IIA	No	R	FT	ACD	No	15.19.6
Dibutyl hydrogen phosphonate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
2,6-Di-tert-butylphenol	X	P	1	2G	Open	No	-	-	Yes	O	No	ABCD	No	15.19, 16.2.9

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Dibutyl phthalate	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Dibutyl terephthalate	Y	P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.9
Dichlorobenzene (all isomers)	X	S/P	2	2G	Cont	No	T1	IIA	Yes	R	T	ABD	No	15.19.6
3,4-Dichloro-1-butene	Y	S/P	2	2G	Cont	No	T1	IIA	No	C	FT	ABC	Yes	15.12.3, 15.17, 15.19.6
1,1-Dichloroethane	Z	S/P	3	2G	Cont	No	T2	IIA	No	R	FT	A	Yes	15.19.6
Dichloroethyl ether	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	A	No	15.19.6
1,6-Dichlorohexane	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	AB	No	15.19.6
2,2'-Dichloroisopropyl ether	Y	S/P	2	2G	Cont	No			Yes	R	T	ACD	No	15.12, 15.17, 15.19
Dichloromethane	Y	S/P	3	2G	Cont	No	T1	IIA	Yes	R	T	No	No	15.19.6
2,4-Dichlorophenol	Y	S/P	2	2G	Cont	Dry			Yes	R	T	A	No	15.19.6, 16.2.6, 16.2.9
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.9
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution (70% or less)	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.9
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.6, 16.2.9
1,1-Dichloropropane	Y	S/P	2	2G	Cont	No	T4	IIA	No	R	FT	AB	No	15.12, 15.19.6
1,2-Dichloropropane	Y	S/P	2	2G	Cont	No	T1	IIA	No	R	FT	AB	No	15.12, 15.19.6
1,3-Dichloropropene	X	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	AB	Yes	15.12, 15.17, 15.18, 15.19
Dichloropropene/Dichloropropane mixtures	X	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	ABD	Yes	15.12, 15.17, 15.18, 15.19
2,2-Dichloropropionic acid	Y	S/P	3	2G	Cont	Dry			Yes	R	No	A	No	15.11.2, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.19.6, 16.2.9
Dicyclopentadiene, Resin Grade, 81-89%	Y	S/P	2	2G	Cont	Inert	T2	IIB	No	C	FT	ABC	Yes	15.12, 15.13, 15.17, 15.19
Diethanolamine	Y	S/P	3	2G	Open	No	T1	IIA	Yes	O	No	A	No	16.2.6, 16.2.9
Diethylamine	Y	S/P	3	2G	Cont	No	T2	IIA	No	R	FT	A	Yes	15.12, 15.19.6
Diethylaminoethanol	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	AC	No	15.19.6
2,6-Diethylaniline	Y	S/P	3	2G	Open	No			Yes	O	No	BCD	No	15.19.6, 16.2.9
Diethylbenzene	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Diethylene glycol dibutyl ether	Z	S/P	3	2G	Open	No	-	-	Yes	O	No	A	No	
Diethylene glycol diethyl ether	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	
Diethylene glycol phthalate	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Diethylenetriamine	Y	S/P	3	2G	Open	No	T2	IIA	Yes	O	No	A	No	15.19.6
Diethylenetriaminepentaacetic acid, pentasodium salt solution	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	
Diethyl ether	Z	S/P	2	1G	Cont	Inert	T4	IIB	No	C	FT	A	Yes	15.4, 15.14, 15.19

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Di-(2-ethylhexyl) adipate	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6
Di-(2-ethylhexyl) phosphoric acid	Y	S/P	2	2G	Open	No			Yes	O	No	AD	No	15.19.6
Diethyl phthalate	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Diethyl sulphate	Y	S/P	2	2G	Cont	No			Yes	C	T	A	No	15.19.6
Diglycidyl ether of bisphenol A	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Diglycidyl ether of bisphenol F	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6
Diheptyl phthalate	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6
Di-n-hexyl adipate	X	P	1	2G	Open	No			Yes	O	No	A	No	15.19
Dihexyl phthalate	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6
Diisobutylamine	Y	S/P	2	2G	Cont	No	T4	IIB	No	R	FT	ACD	No	15.12.3, 15.19.6
Diisobutylene	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Diisobutyl ketone	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Diisobutyl phthalate	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Diisononyl adipate	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Diisooctyl phthalate	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Diisopropanolamine	Z	S/P	3	2G	Open	No	T2	IIA	Yes	O	No	A	No	16.2.9
Diisopropylamine	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	A	Yes	15.12, 15.19
Diisopropylbenzene (all isomers)	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Diisopropylnaphthalene	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
N,N-Dimethylacetamide	Z	S/P	3	2G	Cont	No	-	-	Yes	C	T	ACD	No	15.12, 15.17
N,N-Dimethylacetamide solution (40% or less)	Z	S/P	3	2G	Cont	No			Yes	R	T	B	No	15.12.1, 15.17
Dimethyl adipate	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Dimethylamine solution (45% or less)	Y	S/P	3	2G	Cont	No	T2	IIA	No	R	FT	ACD	No	15.12, 15.19.6
Dimethylamine solution (greater than 45% but not greater than 55%)	Y	S/P	2	2G	Cont	No	T2	IIB	No	C	FT	ACD	Yes	15.12, 15.17, 15.19
Dimethylamine solution (greater than 55% but not greater than 65%)	Y	S/P	2	2G	Cont	No	T2	IIB	No	C	FT	ACD	Yes	15.12, 15.14, 15.17, 15.19
N,N-Dimethylcyclohexylamine	Y	S/P	2	2G	Cont	No	T3	IIB	No	R	FT	AC	No	15.12, 15.17, 15.19.6
Dimethyl disulphide	Y	S/P	2	2G	Cont	No	T3	IIA	No	R	FT	B	No	15.12.3, 15.12.4, 15.19.6
N,N-Dimethyldodecylamine	X	S/P	1	2G	Open	No			Yes	O	No	B	No	15.19
Dimethylethanolamine	Y	S/P	3	2G	Cont	No	T3	IIA	No	R	FT	AD	No	15.19.6
Dimethylformamide	Y	S/P	3	2G	Cont	No	T2	IIA	No	R	FT	AD	No	15.19.6
Dimethyl glutarate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Dimethyl hydrogen phosphite	Y	S/P	3	2G	Cont	No			Yes	R	T	AD	No	15.12.1, 15.19.6
Dimethyl octanoic acid	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Dimethyl phthalate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Dimethylpolysiloxane	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6
2,2-Dimethylpropane-1,3-diol (molten or solution)	Z	P	3	2G	Open	No	-	-	Yes	O	No	AB	No	16.2.9
Dimethyl succinate	Y	P	3	2G	Open	No			Yes	O	No	A	No	16.2.9
Dinitrotoluene (molten)	X	S/P	2	2G	Cont	No			Yes	C	T	A	No	15.12, 15.17, 15.19, 15.21, 16.2.6, 16.2.9, 16.6.4
Dinonyl phthalate	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Dioctyl phthalate	X	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6
1,4-Dioxane	Y	S/P	2	2G	Cont	No	T2	IIB	No	C	FT	A	No	15.12, 15.19, 16.2.9
Dipentene	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Diphenyl	X	P	2	2G	Open	No			Yes	O	No	B	No	15.19.6, 16.2.6, 16.2.9
Diphenylamine (molten)	Y	P	2	2G	Open	No	-	-	Yes	O	No	BD	No	15.19.6, 16.2.6, 16.2.9
Diphenylamine, reaction product with 2,2,4-Trimethylpentene	Y	S/P	1	2G	Open	No			Yes	O	No	A	No	15.19, 16.2.6
Diphenylamines, alkylated	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Diphenyl/Diphenyl ether mixtures	X	P	2	2G	Open	No			Yes	O	No	B	No	15.19.6, 16.2.9
Diphenyl ether	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Diphenyl ether/Diphenyl phenyl ether mixture	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Diphenylmethane diisocyanate	Y	S/P	2	2G	Cont	Dry	-	-	Yes (a)	C	T(a)	ABC (b)D	No	15.12, 15.16.2, 15.17, 15.19.6, 16.2.6, 16.2.9
Diphenylol propane-epichlorohydrin resins	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Di-n-propylamine	Y	S/P	2	2G	Cont	No	T3	IIB	No	R	FT	A	No	15.12.3, 15.19.6
Dipropylene glycol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Dithiocarbamate ester (C7-C35)	X	P	2	2G	Open	No			Yes	O	No	AD	No	15.19.6, 16.2.9
Ditridecyl adipate	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Ditridecyl phthalate	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Diundecyl phthalate	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Dodecane (all isomers)	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	AB	No	15.19.6
tert-Dodecanethiol	X	S/P	1	2G	Cont	No	-	-	Yes	C	T	ABD	Yes	15.12, 15.17, 15.19
Dodecene (all isomers)	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Dodecyl alcohol	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9

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Dodecylamine/Tetradecylamine mixture	Y	S/P	2	2G	Cont	No			Yes	R	T	AD	No	15.19.6, 16.2.9
Dodecylbenzene	Z	P	3	2G	Open	No	-	-	Yes	O	No	AB	No	
Dodecyl diphenyl ether disulphonate solution	X	S/P	2	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.6
Dodecyl hydroxypropyl sulphide	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Dodecyl methacrylate	Z	S/P	3	2G	Open	No			Yes	O	No	A	No	15.13
Dodecyl/Octadecyl methacrylate mixture	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.13, 15.19.6, 16.2.6, 16.6.1, 16.6.2
Dodecyl/Pentadecyl methacrylate mixture	Y	S/P	2	2G	Open	No			Yes	O	No	AD	No	15.13, 15.19.6, 16.6.1, 16.6.2
Dodecyl phenol	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6
Dodecyl Xylene	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Drilling brines (containing zinc salts)	X	P	2	2G	Open	No			Yes	O	No	No	No	15.19.6
Drilling brines, including:calcium bromide solution, calcium chloride solution and sodium chloride solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Epichlorohydrin	Y	S/P	2	2G	Cont	No	T2	IIB	No	C	FT	A	Yes	15.12, 15.17, 15.19
Ethanolamine	Y	S/P	3	2G	Open	No	T2	IIA	Yes	O	FT	A	No	16.2.9
2-Ethoxyethyl acetate	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Ethoxylated long chain (C16+) alkyloxyalkylamine	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	AB	No	15.19.6, 16.2.9
Ethoxylated tallow amine (> 95%)	X	S/P	2	2G	Cont	Inert	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19, 16.2.6, 16.2.9
Ethyl acetate	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	AB	No	
Ethyl acetoacetate	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Ethyl acrylate	Y	S/P	2	2G	Cont	No	T2	IIB	No	R	FT	A	Yes	15.13, 15.19.6, 16.6.1, 16.6.2
Ethylamine	Y	S/P	2	1G	Cont	No	T2	IIA	No	C	FT	CD	Yes	15.12, 15.14, 15.19.6
Ethylamine solutions (72% or less)	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	AC	Yes	15.12, 15.14, 15.17, 15.19
Ethyl amyl ketone	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Ethylbenzene	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Ethyl tert-butyl ether	Y	P	3	2G	Cont	No	T2	IIB	No	R	F	A	No	15.19.6
Ethyl butyrate	Y	P	3	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Ethylcyclohexane	Y	P	2	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
N-Ethylcyclohexylamine	Y	S/P	2	2G	Cont	No	T3	IIB	No	R	FT	A	No	15.19.6
S-Ethyl dipropylthiocarbamate	Y	P	2	2G	Open	No			Yes	O	No	A	No	16.2.9
Ethylene chlorohydrin	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	AD	Yes	15.12, 15.17, 15.19
Ethylene cyanohydrin	Y	S/P	3	2G	Open	No		IIB	Yes	O	No	A	No	15.19.6

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Ethylenediamine	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	A	No	15.19.6, 16.2.9
Ethylenediaminetetraacetic acid, tetrasodium salt solution	Y	S/P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Ethylene dibromide	Y	S/P	2	2G	Cont	No			NF	C	T	No	Yes	15.12, 15.19.6, 16.2.9
Ethylene dichloride	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	AB	No	15.19
Ethylene glycol	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Ethylene glycol acetate	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Ethylene glycol butyl ether acetate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Ethylene glycol diacetate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Ethylene glycol methyl ether acetate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Ethylene glycol monoalkyl ethers	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	F	A	No	15.19.6, 16.2.9
Ethylene glycol phenyl ether	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Ethylene oxide/Propylene oxide mixture with an ethylene oxide content of not more than 30% by mass	Y	S/P	2	1G	Cont	Inert	T2	IIB	No	C	FT	AC	No	15.8, 15.12, 15.14, 15.19
Ethylene-vinyl acetate copolymer (emulsion)	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Ethyl-3-ethoxypropionate	Y	P	3	2G	Cont	No	T2	IIA	No	R	No	A	No	15.19.6
2-Ethylhexanoic acid	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6
2-Ethylhexyl acrylate	Y	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	Y	S/P	2	2G	Cont	No	T3	IIA	No	R	FT	A	No	15.12, 15.19.6
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol (C8-C10) ester	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Ethylidene norbornene	Y	S/P	2	2G	Cont	No	T3	IIB	No	R	FT	AD	No	15.12.1, 15.19.6
Ethyl methacrylate	Y	S/P	3	2G	Cont	No	T2	IIA	No	R	FT	AD	No	15.13, 15.19.6, 16.6.1, 16.6.2
N-Ethylmethylallylamine	Y	S/P	2	2G	Cont	No	T2	IIB	No	C	F	AC	Yes	15.12.3, 15.17, 15.19
Ethyl propionate	Y	P	3	2G	Open	No	T1	IIA	No	R	F	A	No	15.19.6
2-Ethyl-3-propylacrolein	Y	S/P	3	2G	Cont	No	T3	IIA	No	R	FT	A	No	15.19.6, 16.2.9
Ethyl toluene	Y	P	2	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Fatty acid (saturated C13+)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
Fatty acid methyl esters (m)	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6, 16.2.6, 16.2.9
Fatty acids, (C8-C10)	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19, 16.2.6, 16.2.9
Fatty acids, (C12+)	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6, 16.2.6, 16.2.9
Fatty acids, (C16+)	Y	P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6

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Fatty acids, essentially linear (C6-C18) 2-ethylhexyl ester	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6
Ferric chloride solutions	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.11, 15.19.6, 16.2.9
Ferric nitrate/Nitric acid solution	Y	S/P	2	2G	Cont	No			NF	R	T	No	Yes	15.11, 15.19
Fish oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Fluorosilicic acid (20-30%) in water solution	Y	S/P	3	1G	Cont	No	-	-	NF	R	T	No	Yes	15.11, 15.19.6
Formaldehyde solutions (45% or less)	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	FT	A	Yes	15.19.6, 16.2.9
Formamide	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Formic acid (85% or less acid)	Y	S/P	3	2G	Cont	No	-	-	Yes	R	T(g)	A	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.19.6, 16.2.9
Formic acid (over 85%)	Y	S/P	3	2G	Cont	No	T1	IIA	No	R	FT (g)	A	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.19.6, 16.2.9
Formic acid mixture (containing up to 18% propionic acid and up to 25% sodium formate)	Z	S/P	3	2G	Cont	No	-	-	Yes	R	T(g)	AC	No	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.19.6
Furfural	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	FT	A	No	15.19.6
Furfuryl alcohol	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Glucitol/glycerol blend propoxylated (containing less than 10% amines)	Z	S/P	3	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6
Glutaraldehyde solutions (50% or less)	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6
Glycerol monooleate	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Glycerol propoxylated	Z	S/P	3	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6
Glycerol, propoxylated and ethoxylated	Z	P	3	2G	Open	No	-	-	Yes	O	No	ABC	No	
Glycerol/sucrose blend propoxylated and ethoxylated	Z	P	3	2G	Open	No	-	-	Yes	O	No	ABC	No	
Glyceryl triacetate	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Glycidyl ester of C10 trialkylacetic acid	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Glycine, sodium salt solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Glycolic acid solution (70% or less)	Z	S/P	3	2G	Open	No	-	-	NF	O	No	No	No	15.19.6, 16.2.9
Glyoxal solution (40% or less)	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Glyoxylic acid solution (50 % or less)	Y	S/P	3	2G	Open	No	-	-	Yes	O	No	ACD	No	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.19.6, 16.2.9, 16.6.1, 16.6.2, 16.6.3
Glyphosate solution (not containing surfactant)	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Groundnut oil	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Heptane (all isomers)	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6, 16.2.9
n-Heptanoic acid	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Heptanol (all isomers) (d)	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Heptene (all isomers)	Y	P	3	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Heptyl acetate	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
1-Hexadecylnaphthalene / 1,4-bis(hexadecyl)naphthalene mixture	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Hexamethylenediamine (molten)	Y	S/P	2	2G	Cont	No	-	-	Yes	C	T	AC	Yes	15.12, 15.17, 15.18, 15.19, 16.2.9
Hexamethylenediamine adipate (50% in water)	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Hexamethylenediamine solution	Y	S/P	3	2G	Cont	No			Yes	R	T	A	No	15.19.6
Hexamethylene diisocyanate	Y	S/P	2	1G	Cont	Dry	T1	IIB	Yes	C	T	AC (b)D	Yes	15.12, 15.16.2, 15.17, 15.18, 15.19
Hexamethylene glycol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Hexamethyleneimine	Y	S/P	2	2G	Cont	No	T4	IIB	No	R	FT	AC	No	15.19.6
Hexane (all isomers)	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
1,6-Hexanediol, distillation overheads	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.12.3, 15.12.4, 15.19.6, 16.2.9
Hexanoic acid	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6
Hexanol	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6
Hexene (all isomers)	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Hexyl acetate	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Hydrochloric acid	Z	S/P	3	1G	Cont	No			NF	R	T	No	Yes	15.11
Hydrogen peroxide solutions (over 60% but not over 70% by mass)	Y	S/P	2	2G	Cont	No			NF	C	No	No	No	15.5.1, 15.19.6
Hydrogen peroxide solutions (over 8% but not over 60% by mass)	Y	S/P	3	2G	Cont	No			NF	C	No	No	No	15.5.2, 15.18, 15.19.6
2-Hydroxyethyl acrylate	Y	S/P	2	2G	Cont	No			Yes	C	T	A	No	15.12, 15.13, 15.19.6, 16.6.1, 16.6.2
N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
2-Hydroxy-4-(methylthio)butanoic acid	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Illipe oil	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Isoamyl alcohol	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	AB	No	
Isobutyl alcohol	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	AB	No	
Isobutyl formate	Z	P	3	2G	Cont	No	T4	IIA	No	R	F	AB	No	
Isobutyl methacrylate	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.12, 15.13, 15.17, 16.6.1, 16.6.2
Isophorone	Y	S/P	3	2G	Cont	No			Yes	R	No	A	No	15.19.6
Isophoronediamine	Y	S/P	3	2G	Cont	No			Yes	R	T	A	No	16.2.9
Isophorone diisocyanate	X	S/P	2	2G	Cont	Dry			Yes	C	T	ABD	No	15.12, 15.16.2, 15.17, 15.19.6
Isoprene	Y	S/P	3	2G	Cont	No	T3	IIB	No	R	F	B	No	15.13, 15.14, 15.19.6, 16.6.1, 16.6.2

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Isopropanolamine	Y	S/P	3	2G	Open	No	T2	IIA	Yes	O	FT	A	No	15.19.6, 16.2.6, 16.2.9
Isopropyl acetate	Z	P	3	2G	Cont	No	T1	IIA	No	R	F	AB	No	
Isopropylamine	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	CD	Yes	15.12, 15.14, 15.19
Isopropylamine (70% or less) solution	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	CD	Yes	15.12, 15.19.6, 16.2.9
Isopropylcyclohexane	Y	P	2	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6, 16.2.9
Isopropyl ether	Y	S/P	3	2G	Cont	Inert	T2	IIA	No	R	F	A	No	15.4.6, 15.13.3, 15.19.6
Jatropha oil	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6
Lactic acid	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Lactonitrile solution (80% or less)	Y	S/P	2	1G	Cont	No			Yes	C	T	ACD	Yes	15.12, 15,13, 15.17, 15.18, 15.19, 16.6.1, 16.6.2, 16.6.3
Lard	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Latex, ammonia (1% or less)- inhibited	Y	S/P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Latex: Carboxylated styrene-Butadiene copolymer; Styrene-Butadiene rubber	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Lauric acid	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Ligninsulphonic acid, magnesium salt solution	Z	P	3	2G	Open	No	-	-	Yes	O	No	AC	No	
Ligninsulphonic acid, sodium salt solution	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Linseed oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Liquid chemical wastes	X	S/P	2	2G	Cont	No			No	C	FT	A	Yes	15.12, 15.19.6, 20.5.1
Long-chain alkaryl polyether (C11-C20)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Long-chain alkaryl sulphonic acid (C16-C60)	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.9
Long-chain alkylphenate/Phenol sulphide mixture	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
L-Lysine solution (60% or less)	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Magnesium chloride solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Magnesium long-chain alkaryl sulphonate (C11-C50)	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Magnesium long-chain alkyl salicylate (C11+)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Maleic anhydride	Y	S/P	3	2G	Cont	No			Yes	R	No	AC (f)	No	16.2.9
Mango kernel oil	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Mercaptobenzothiazol, sodium salt solution	X	S/P	2	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.9
Mesityl oxide	Z	S/P	3	2G	Cont	No	T2	IIB	No	R	FT	A	No	15.19.6
Metam sodium solution	X	S/P	2	2G	Cont	No	-	-	NF	C	T	No	Yes	15.12, 15.17, 15.19
Methacrylic acid	Y	S/P	3	2G	Cont	No			Yes	R	T	A	No	15.13, 15.19.6, 16.2.9, 16.6.1

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Methacrylic acid - alkoxypoly (alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45% or less)	Z	S/P	3	2G	Open	No	-	-	NF	O	No	AC	No	16.2.9
Methacrylic resin in ethylene dichloride	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	AB	No	15.19, 16.2.9
Methacrylonitrile	Y	S/P	2	2G	Cont	No	T1	IIA	No	C	FT	A	Yes	15.12, 15.13, 15.17, 15.19
3-Methoxy-1-butanol	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	
3-Methoxybutyl acetate	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide	X	P	1	2G	Open	No			Yes	O	No	A	No	15.19, 16.2.6
Methyl acetate	Z	P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	
Methyl acetoacetate	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Methyl acrylate	Y	S/P	2	2G	Cont	No	T1	IIB	No	R	FT	A	Yes	15.13, 15.19.6, 16.6.1, 16.6.2
Methyl alcohol	Y	P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	15.19.6
Methylamine solutions (42% or less)	Y	S/P	2	2G	Cont	No	T2	IIA	No	C	FT	ACD	Yes	15.12, 15.17, 15.19
Methylamyl acetate	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Methylamyl alcohol	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Methyl amyl ketone	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
N-Methylaniline	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.12.3, 15.12.4, 15.19.6
alpha-Methylbenzyl alcohol with acetophenone (15% or less)	Y	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19, 16.2.6, 16.2.9
Methylbutenol	Y	P	3	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6, 16.2.9
Methyl tert-butyl ether	Z	P	3	2G	Cont	No	T1	IIA	No	R	F	AB	No	
Methyl butyl ketone	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	AB	No	15.19.6
Methylbutynol	Z	P	3	2G	Cont	No	T4	IIB	No	R	F	A	No	
Methyl butyrate	Y	P	3	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Methylcyclohexane	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Methylcyclopentadiene dimer	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	B	No	15.19.6
Methylcyclopentadienyl manganese tricarbonyl	X	S/P	1	1G	Cont	No	-	-	Yes	C	T	ABCD	Yes	15.12, 15.18, 15.19, 16.2.9
Methyl diethanolamine	Y	S/P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6
2-Methyl-6-ethyl aniline	Y	S/P	3	2G	Open	No			Yes	O	No	AD	No	15.19.6
Methyl ethyl ketone	Z	P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	
2-Methyl-5-ethyl pyridine	Y	S/P	3	2G	Open	No		IIA	Yes	O	No	AD	No	15.19.6
Methyl formate	Z	S/P	2	2G	Cont	No	T1	IIA	No	R	FT	A	Yes	15.12, 15.14, 15.19
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)	Z	S	2	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19

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2-Methyl-2-hydroxy-3-butyne	Z	S/P	3	2G	Cont	No	T3	IIA	No	R	FT	ABD	No	15.19.6, 16.2.9
Methyl isobutyl ketone	Z	P	3	2G	Cont	No	T1	IIA	No	R	F	AB	No	
Methyl methacrylate	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	A	No	15.13, 15.19.6, 16.6.1, 16.6.2
3-Methyl-3-methoxybutanol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Methyl naphthalene (molten)	X	S/P	2	2G	Cont	No			Yes	R	No	AD	No	15.19.6
2-Methyl-1,3-propanediol	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	
2-Methylpyridine	Z	S/P	2	2G	Cont	No	T1	IIA	No	C	F	A	No	15.12.3, 15.19.6
3-Methylpyridine	Z	S/P	2	2G	Cont	No	T1	IIA	No	C	F	AC	No	15.12.3, 15.19
4-Methylpyridine	Z	S/P	2	2G	Cont	No	T1	IIA	No	C	FT	A	No	15.12.3, 15.19, 16.2.9
N-Methyl-2-pyrrolidone	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Methyl salicylate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
alpha-Methylstyrene	Y	S/P	2	2G	Cont	No	T1	IIB	No	R	FT	AD (j)	No	15.13, 15.19.6, 16.6.1, 16.6.2
3-(methylthio)propionaldehyde	Y	S/P	2	2G	Cont	No	T3	IIA	No	C	FT	BC	Yes	15.12, 15.17, 15.19
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	Y	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	Yes	15.12, 15.17, 15.19, 16.2.6, 16.2.9
Morpholine	Y	S/P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Motor fuel anti-knock compound (containing lead alkyls)	X	S/P	1	1G	Cont	No	T4	IIA	No	C	FT	AC	Yes	15.6, 15.12, 15.18, 15.19
Myrcene	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6, 16.2.9
Naphthalene (molten)	X	S/P	2	2G	Cont	No	T1	IIA	Yes	R	No	AD	No	15.19.6, 16.2.9
Naphthalenesulphonic acid-Formaldehyde copolymer, sodium salt solution	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Neodecanoic acid	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Nitrating acid (mixture of sulphuric and nitric acids)	Y	S/P	2	2G	Cont	No			NF	C	T	No	Yes	15.11, 15.16.2, 15.17, 15.19
Nitric acid (70% and over)	Y	S/P	2	2G	Cont	No			NF	C	T	No	Yes	15.11, 15.19
Nitric acid (less than 70%)	Y	S/P	2	2G	Cont	No			NF	R	T	No	Yes	15.11, 15.19
Nitrilotriacetic acid, trisodium salt solution	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
Nitrobenzene	Y	S/P	2	2G	Cont	No	T1	IIA	Yes	C	T	AD	No	15.12, 15.17, 15.18, 15.19, 16.2.9
Nitroethane	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	FT	A(f)	No	15.19.6, 16.6.1, 16.6.2, 16.6.4
Nitroethane(80%)/ Nitropropane(20%)	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	FT	A(f)	No	15.19.6, 16.6.1, 16.6.2, 16.6.3
Nitroethane, 1-Nitropropane (each 15% or more) mixture	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	F	A	No	15.19.6, 16.2.6, 16.6.1, 16.6.2, 16.6.3
o-Nitrophenol (molten)	Y	S/P	2	2G	Cont	No			Yes	C	T	AD	No	15.12, 15.19.6, 16.2.6, 16.2.9
1- or 2-Nitropropane	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	FT	A	No	15.19.6

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Nitropropane (60%)/Nitroethane (40%) mixture	Y	S/P	3	2G	Cont	No	T4	IIB	No	R	FT	A(f)	No	15.19.6
o- or p-Nitrotoluenes	Y	S/P	2	2G	Cont	No		IIB	Yes	C	T	AB	No	15.12, 15.17, 15.19.6
Nonane (all isomers)	X	P	2	2G	Cont	No	T4	IIA	No	R	F	BC	No	15.19.6
Nonanoic acid (all isomers)	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
Non-edible industrial grade palm oil	Y	S/P	2	2G	Cont	No	-	-	Yes	R	No	ABC	No	15.12.3, 15.12.4, 15.19.6, 16.2.6, 16.2.9
Nonene (all isomers)	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Nonyl alcohol (all isomers)	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Nonyl methacrylate monomer	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
Nonylphenol	X	P	1	2G	Open	No			Yes	O	No	A	No	15.19, 16.2.6, 16.2.9
Nonylphenol poly(4+)ethoxylate	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Noxious liquid, NF, (1) n.o.s. (trade name ...., contains ....) ST1, Cat. X	X	P	1	2G	Open	No	-	-	Yes	O	No	A	No	15.19, 16.2.6
Noxious liquid, F, (2) n.o.s. (trade name ...., contains ....) ST1, Cat. X	X	P	1	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19, 16.2.6
Noxious liquid, NF, (3) n.o.s. (trade name ...., contains ....) ST2, Cat. X	X	P	2	2G	Open	No	-		Yes	O	No	A	No	15.19, 16.2.6
Noxious liquid, F, (4) n.o.s. (trade name ...., contains ....) ST2, Cat. X	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19, 16.2.6
Noxious liquid, NF, (5) n.o.s. (trade name ...., contains ....) ST2, Cat. Y	Y	P	2	2G	Open	No	-		Yes	O	No	A	No	15.19, 16.2.6, 16.2.9(l)
Noxious liquid, F, (6) n.o.s. (trade name ...., contains ....) ST2, Cat. Y	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19, 16.2.6, 16.2.9(l)
Noxious liquid, NF, (7) n.o.s. (trade name ...., contains ....) ST3, Cat. Y	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19, 16.2.6, 16.2.9(l)
Noxious liquid, F, (8) n.o.s. (trade name ...., contains ....) ST3, Cat. Y	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19, 16.2.6, 16.2.9(l)
Noxious liquid, NF, (9) n.o.s. (trade name ...., contains ....) ST3, Cat. Z	Z	P	3	2G	Open	No	-		Yes	O	No	A	No	
Noxious liquid, F, (10) n.o.s. (trade name ...., contains ....) ST3, Cat. Z	Z	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	
Octamethylcyclotetrasiloxane	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	AC	No	15.19.6, 16.2.9
Octane (all isomers)	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Octanoic acid (all isomers)	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Octanol (all isomers)	Y	P	2	2G	Open	No			Yes	O	No	A	No	
Octene (all isomers)	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
n-Octyl acetate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Octyl aldehydes	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	A	No	15.19.6, 16.2.9
Octyl decyl adipate	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.9
Olefin-Alkyl ester copolymer (molecular weight 2000+)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Olefin Mixture (C7-C9) C8 rich, stabilised	X	S/P	2	2G	Cont	No	T3	IIB	No	R	F	ABC	No	15.13, 15.19.6
Olefin mixtures (C5-C7)	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6

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Olefin mixtures (C5-C15)	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Olefins (C13+, all isomers)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
alpha-Olefins (C6-C18) mixtures	X	P	2	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6, 16.2.9
Oleic acid	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
Oleum	Y	S/P	2	2G	Cont	No			NF	C	T	No	Yes	15.11.2 to 15.11.8, 15.12.1, 15.16.2, 15.17, 15.19, 16.2.6
Oleylamine	X	S/P	2	2G	Cont	No			Yes	R	T	A	No	15.19.6, 16.2.9
Olive oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Oxygenated aliphatic hydrocarbon mixture	Z	S/P	3	2G	Open	No	-	-	Yes	O	No	ABC	No	
Palm acid oil	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm fatty acid distillate	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm kernel acid oil	Y	S/P	2	2G	Open	No			Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm kernel fatty acid distillate	Y	S/P	2	2G	Cont	No	-	-	Yes	R	T	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm kernel oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm kernel olein	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm kernel stearin	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm mid-fraction	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm oil fatty acid methyl ester	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.9
Palm olein	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Palm stearin	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Paraffin wax	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Paraldehyde	Z	S/P	3	2G	Cont	No	T3	IIB	No	R	F	A	No	15.19.6, 16.2.9
Paraldehyde-ammonia reaction product	Y	S/P	2	2G	Cont	No	T4	IIB	No	C	FT	A	No	15.12.3, 15.19
Pentachloroethane	Y	S/P	2	2G	Cont	No			NF	R	T	No	No	15.12, 15.17, 15.19.6
1,3-Pentadiene	Y	S/P	3	2G	Cont	No	T1	IIA	No	R	FT	AB	No	15.13, 15.19.6, 16.6.1, 16.6.2, 16.6.3
1,3-Pentadiene (greater than 50%), cyclopentene and isomers, mixtures	Y	S/P	2	2G	Cont	Inert	T3	IIB	No	C	FT	ABC	Yes	15.12, 15.13, 15.17, 15.19
Pentaethylenehexamine	X	S/P	2	2G	Open	No			Yes	O	No	B	Yes	15.19
Pentane (all isomers)	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.14, 15.19.6
Pentanoic acid	Y	P	3	2G	Open	No			Yes	O	No	AB	No	15.19.6
n-Pentanoic acid (64%)/2-Methyl butyric acid (36%) mixture	Y	S/P	2	2G	Open	No	T2		Yes	C	No	AD	No	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.19

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Pentene (all isomers)	Y	P	3	2G	Cont	No	T3	IIA	No	R	F	A	No	15.14, 15.19.6
n-Pentyl propionate	Y	P	3	2G	Cont	No	T4	IIA	No	R	F	A	No	15.19.6
Perchloroethylene	Y	S/P	2	2G	Cont	No			NF	R	T	No	No	15.12.1, 15.12.2, 15.19.6
Petrolatum	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Phenol	Y	S/P	2	2G	Cont	No	T1	IIA	Yes	C	T	A	No	15.12, 15.19, 16.2.9
1-Phenyl-1-xylyl ethane	Y	P	3	2G	Open	No			Yes	O	No	AB	No	
Phosphate esters, alkyl (C12-C14) amine	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	A	No	15.19.6, 16.2.6, 16.2.9
Phosphoric acid	Z	S/P	3	2G	Open	No			NF	O	No	No	No	15.11.1, 15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 16.2.9
Phosphorus, yellow or white	X	S/P	1	1G	Cont	Pad+ (vent or inert)			No (c)	C	No	C	Yes	15.7, 15.19, 16.2.9
Phthalic anhydride (molten)	Y	S/P	2	2G	Cont	No	T1	IIA	Yes	R	No	AD	No	15.19.6, 16.2.6, 16.2.9
alpha-Pinene	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
beta-Pinene	X	P	2	2G	Cont	No	T4	IIB	No	R	F	A	No	15.19.6
Pine oil	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Polyacrylic acid solution (40% or less)	Z	S/P	3	2G	Open	No	-	-	Yes	O	No	AC	No	
Polyalkyl (C18-C22) acrylate in xylene	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	AB	No	15.19.6, 16.2.6,16.2.9
Polyalkylalkenaminesuccinimide, molybdenum oxysulphide	Y	P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	
Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Polyalkyl (C10-C20) methacrylate	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Polyalkyl (C10-C18) methacrylate/ethylene-propylene copolymer mixture	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Polybutene	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Polybutenyl succinimide	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Poly(2+)cyclic aromatics	X	P	1	2G	Cont	No			Yes	R	No	AD	No	15.19, 16.2.6, 16.2.9
Polyether (molecular weight 1350+)	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6
Polyethylene glycol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Polyethylene glycol dimethyl ether	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Poly(ethylene glycol) methylbutenyl ether (MW>1000)	Z	P	3	2G	Open	No	-	-	Yes	O	No	AC	No	16.2.9
Polyethylene polyamines	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Polyethylene polyamines (more than 50% C5 -C20 paraffin oil)	Y	S/P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9

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Polyferric sulphate solution	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6
Poly(iminoethylene)-graft-N-poly(ethyleneoxy) solution (90% or less)	Z	S/P	3	2G	Open	No	-	-	NF	O	No	AC	No	16.2.9
Polyisobutenamine in aliphatic (C10-C14) solvent	Y	P	3	2G	Open	No	T3	IIA	Yes	O	No	A	No	15.19.6
Polyisobutenyl anhydride adduct	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Poly(4+)isobutylene	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.9
Polymethylene polyphenyl isocyanate	Y	S/P	2	2G	Cont	Dry			Yes (a)	C	T(a)	A	No	15.12, 15.16.2, 15.19.6, 16.2.9
Polyolefin (molecular weight 300+)	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Polyolefin amide alkeneamine (C17+)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Polyolefin amide alkeneamine borate (C28-C250)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Polyolefin amide alkeneamine polyol	Y	P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Polyolefinamine (C28-C250)	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Polyolefinamine in alkyl (C2-C4) benzenes	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	A	No	15.19.6, 16.2.6, 16.2.9
Polyolefinamine in aromatic solvent	Y	P	2	2G	Cont	No	T4	IIB	No	R	F	A	No	15.19.6, 16.2.6, 16.2.9
Polyolefin aminoester salts (molecular weight 2000+)	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Polyolefin anhydride	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Polyolefin ester (C28-C250)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Polyolefin phenolic amine (C28-C250)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Polyolefin phosphorosulphide, barium derivative (C28-C250)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Poly(20)oxyethylene sorbitan monooleate	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Poly(5+)propylene	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.9
Polypropylene glycol	Z	S/P	3	2G	Cont	No			Yes	O	No	ABC	No	15.19.6
Polysiloxane	Y	P	3	2G	Cont	No	T4	IIB	No	R	F	AB	No	15.19.6, 16.2.9
Potassium chloride solution	Z	S/P	3	2G	Open	No	-	-	NF	O	No	A	No	16.2.9
Potassium hydroxide solution	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6
Potassium oleate	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Potassium thiosulphate (50% or less)	Y	P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.9
n-Propanolamine	Y	S/P	3	2G	Open	No			Yes	O	No	AD	No	15.19.6, 16.2.9
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer solution	Y	S/P	3	2G	Open	No	-	-	NF	O	No	No	No	15.19.6
beta-Propiolactone	Y	S/P	2	2G	Cont	No		IIA	Yes	R	T	A	No	15.19.6
Propionaldehyde	Y	S/P	3	2G	Cont	No	T4	IIB	No	R	FT	A	Yes	15.17, 15.19.6

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Propionic acid	Y	S/P	3	2G	Cont	No	T1	IIA	No	R	F	A	Yes	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.19.6
Propionic anhydride	Y	S/P	3	2G	Cont	No	T2	IIA	Yes	R	T	A	No	15.19.6
Propionitrile	Y	S/P	2	1G	Cont	No	T1	IIB	No	C	FT	AD	Yes	15.12, 15.17, 15.18, 15.19
n-Propyl acetate	Y	P	3	2G	Cont	No	T1	IIA	No	R	F	AB	No	15.19.6
n-Propyl alcohol	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
n-Propylamine	Z	S/P	2	2G	Cont	Inert	T2	IIA	No	C	FT	AD	Yes	15.12, 15.19
Propylbenzene (all isomers)	Y	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Propylene glycol methyl ether acetate	Z	P	3	2G	Cont	No	T2	IIA	No	R	F	A	No	
Propylene glycol monoalkyl ether	Z	P	3	2G	Cont	No	T3	IIA	No	R	F	AB	No	
Propylene glycol phenyl ether	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Propylene oxide	Y	S/P	2	2G	Cont	Inert	T2	IIB	No	C	FT	AC	No	15.8, 15.12.1, 15.14, 15.19
Propylene tetramer	X	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Propylene trimer	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6
Pyridine	Y	S/P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	15.19.6
Pyrolysis gasoline (containing benzene)	Y	S/P	2	2G	Cont	No	T3	IIA	No	C	FT	AB	No	15.12, 15.17, 15.19.6
Rapeseed oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Rapeseed oil (low erucic acid containing less than 4% free fatty acids)	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Rape seed oil fatty acid methyl esters	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Resin oil, distilled	Y	S/P	2	2G	Cont	No	T1	IIA	No	C	FT	ABC	No	15.12,15.17, 15.19.6
Rice bran oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Rosin	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Safflower oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Shea butter	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Sodium alkyl (C14-C17) sulphonates (60-65% solution)	Y	P	2	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.6, 16.2.9
Sodium aluminosilicate slurry	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Sodium benzoate	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Sodium borohydride (15% or less)/Sodium hydroxide solution	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.6, 16.2.9
Sodium bromide solution (less than 50%) (*)	Y	S/P	3	2G	Open	No	-	-	NF	R	No	No	No	15.19.6
Sodium carbonate solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Sodium chlorate solution (50% or less)	Z	S/P	3	2G	Open	No			NF	O	No	No	No	15.9, 15.19.6, 16.2.9

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Sodium dichromate solution (70% or less)	Y	S/P	2	2G	Open	No			NF	C	No	No	No	15.12.3, 15.19
Sodium hydrogen sulphide (6% or less)/Sodium carbonate (3% or less) solution	Z	P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.9
Sodium hydrogen sulphite solution (45% or less)	Z	S/P	3	2G	Open	No			NF	O	No	No	No	16.2.9
Sodium hydrosulphide/Ammonium sulphide solution	Y	S/P	2	2G	Cont	No	T4	IIB	No	C	FT	A	Yes	15.12, 15.14, 15.17, 15.19, 16.6.1, 16.6.2, 16.6.3
Sodium hydrosulphide solution (45% or less)	Z	S/P	3	2G	Cont	Vent or pad (gas)			NF	R	T	No	No	15.19.6, 16.2.9
Sodium hydroxide solution	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.6, 16.2.9
Sodium hypochlorite solution (15% or less)	Y	S/P	2	2G	Cont	No	-	-	NF	R	No	No	No	15.19.6
Sodium methylate 21-30% in methanol	Y	S/P	2	2G	Cont	No	T1	IIA	No	C	FT	AC	Yes	15.12, 15.17, 15.19, 16.2.6(only if >28%), 16.2.9
Sodium nitrite solution	Y	S/P	2	2G	Open	No			NF	O	No	No	No	15.12.3.1, 15.12.3.2, 15.19, 16.2.9
Sodium petroleum sulphonate	Y	S/P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6
Sodium poly(4+)acrylate solutions	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	16.2.9
Sodium silicate solution	Y	P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.9
Sodium sulphide solution (15% or less)	Y	S/P	3	2G	Cont	No			NF	C	T	No	No	15.19.6, 16.2.9
Sodium sulphite solution (25% or less)	Y	P	3	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.9
Sodium thiocyanate solution (56% or less)	Y	P	3	2G	Open	No			Yes	O	No	No	No	15.19.6, 16.2.9
Soyabean oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Styrene monomer	Y	S/P	3	2G	Cont	No	T1	IIA	No	R	F	AB	No	15.13, 15.19.6, 16.6.1, 16.6.2
Sulphohydrocarbon (C3-C88)	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Sulpholane	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Sulphur (molten)	Z	S	3	1G	Open	Vent or pad (gas)	T3		Yes	O	FT	No	No	15.10, 16.2.9
Sulphuric acid	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.11, 15.16.2, 15.19.6
Sulphuric acid, spent	Y	S/P	3	2G	Open	No			NF	O	No	No	No	15.11, 15.16.2, 15.19.6
Sulphurized fat (C14-C20)	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Sulphurized polyolefinamide alkene (C28-C250) amine	Z	P	3	2G	Open	No	-	-	Yes	O	No	A	No	
Sunflower seed oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Tall oil, crude	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6
Tall oil, distilled	Y	P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6
Tall oil fatty acid (resin acids less than 20%)	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6
Tall oil pitch	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6,16.2.6

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Tallow	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Tallow fatty acid	Y	P	2	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Tetrachloroethane	Y	S/P	2	2G	Cont	No			NF	R	T	No	No	15.12, 15.17, 15.19.6
Tetraethylene glycol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Tetraethylene pentamine	Y	S/P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Tetrahydrofuran	Z	S	3	2G	Cont	No	T3	IIB	No	R	FT	A	No	15.19.6
Tetrahydronaphthalene	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Tetramethylbenzene (all isomers)	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Titanium dioxide slurry	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
Toluene	Y	P	3	2G	Cont	No	T1	IIA	No	R	F	A	No	15.19.6
Toluenediamine	Y	S/P	2	2G	Cont	No			Yes	C	T	AD	Yes	15.12, 15.17, 15.19, 16.2.6, 16.2.9
Toluene diisocyanate	Y	S/P	2	2G	Cont	Dry	T1	IIA	Yes	C	FT	AC (b)D	Yes	15.12, 15.16.2, 15.17, 15.19, 16.2.9
o-Toluidine	Y	S/P	2	2G	Cont	No			Yes	C	T	A	No	15.12, 15.17, 15.19
Tributyl phosphate	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
1,2,3-Trichlorobenzene (molten)	X	S/P	1	2G	Cont	No			Yes	C	T	ACD	Yes	15.12.1, 15.17, 15.19, 16.2.6, 16.2.9
1,2,4-Trichlorobenzene	X	S/P	1	2G	Cont	No			Yes	R	T	AB	No	15.19, 16.2.9
1,1,1-Trichloroethane	Y	P	3	2G	Open	No			Yes	O	No	A	No	15.19.6
1,1,2-Trichloroethane	Y	S/P	3	2G	Cont	No			NF	R	T	No	No	15.12.1, 15.19.6
Trichloroethylene	Y	S/P	2	2G	Cont	No	T2	IIA	Yes	R	T	No	No	15.12, 15.17, 15.19.6
1,2,3-Trichloropropane	Y	S/P	2	2G	Cont	No			Yes	C	T	ABD	No	15.12, 15.17, 15.19
1,1,2-Trichloro-1,2,2-Trifluoroethane	Y	P	2	2G	Open	No			NF	O	No	No	No	15.19.6
Tricresyl phosphate (containing 1% or more ortho-isomer)	Y	S/P	1	2G	Cont	No	T2	IIA	Yes	C	No	AB	No	15.12.3, 15.19, 16.2.6
Tricresyl phosphate (containing less than 1% ortho-isomer)	Y	S/P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6
Tridecane	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6
Tridecanoic acid	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6, 16.2.9
Tridecyl acetate	Y	P	3	2G	Open	No	-	-	Yes	O	No	A	No	15.19.6
Triethanolamine	Z	S/P	3	2G	Open	No		IIA	Yes	O	No	A	No	16.2.9
Triethylamine	Y	S/P	2	2G	Cont	No	T2	IIA	No	R	FT	AC	Yes	15.12, 15.19.6
Triethylbenzene	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Triethylenetetramine	Y	S/P	2	2G	Open	No	T2	IIA	Yes	O	No	A	No	15.19.6

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Triethyl phosphate	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Triethyl phosphite	Z	S/P	3	2G	Cont	No	T3	IIA	No	R	FT	AB	No	15.12.1, 15.19.6, 16.2.9
Triisopropanolamine	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Triisopropylated phenyl phosphates	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6
Trimethylacetic acid	Y	S/P	2	2G	Cont	No			Yes	R	No	A	No	15.11.2, 15.11.3, 15.11.4, 15.11.5, 15.11.6, 15.11.7, 15.11.8, 15.19.6, 16.2.6, 16.2.9
Trimethylamine solution (30% or less)	Z	S/P	2	2G	Cont	No	T3	IIB	No	C	FT	AC	Yes	15.12, 15.14, 15.19, 16.2.9
Trimethylbenzene (all isomers)	X	P	2	2G	Cont	No	T1	IIA	No	R	F	A	No	15.19.6
Trimethylol propane propoxylated	Z	S/P	3	2G	Open	No	-	-	Yes	O	No	ABC	No	
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	Z	P	3	2G	Open	No			Yes	O	No	AB	No	
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
1,3,5-Trioxane	Y	S/P	3	2G	Cont	No	T2	IIB	No	R	F	AD	No	15.19.6, 16.2.9
Tripropylene glycol	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Trixylyl phosphate	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.6
Tung oil	Y	S/P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Turpentine	X	P	2	2G	Cont	No	T1	IIA	No	R	F	A	No	15.19.6
Undecanoic acid	Y	P	2	2G	Open	No			Yes	O	No	A	No	16.2.6, 16.2.9
1-Undecene	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Undecyl alcohol	X	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6, 16.2.9
Urea/Ammonium nitrate solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Urea/Ammonium nitrate solution (containing less than 1% free ammonia)	Z	S/P	3	2G	Cont	No			NF	R	T	A	No	16.2.9
Urea/Ammonium phosphate solution	Y	P	2	2G	Open	No			Yes	O	No	A	No	15.19.6
Urea solution	Z	P	3	2G	Open	No			Yes	O	No	A	No	
Valeraldehyde (all isomers)	Y	S/P	3	2G	Cont	Inert	T3	IIB	No	R	FT	A	No	15.4.6, 15.19.6
Vegetable acid oils (m)	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Vegetable fatty acid distillates (m)	Y	S/P	2	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.6, 16.2.9
Vinyl acetate	Y	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	Z	S/P	2	1G	Cont	Inert	T3	IIB	No	C	FT	A	Yes	15.4, 15.13, 15.14, 15.19.6, 16.6.1, 16.6.2
Vinylidene chloride	Y	S/P	2	2G	Cont	Inert	T2	IIA	No	R	FT	B	Yes	15.13, 15.14, 15.19.6, 16.6.1, 16.6.2
Vinyl neodecanoate	Y	S/P	2	2G	Open	No			Yes	O	No	AB	No	15.13, 15.19.6, 16.6.1, 16.6.2
Vinyltoluene	Y	S/P	2	2G	Cont	No	T1	IIA	No	R	F	AB	No	15.13, 15.19.6, 16.6.1, 16.6.2

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Waxes	Y	P	2	2G	Open	No	-	-	Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
White spirit, low (15-20%) aromatic	Y	P	2	2G	Cont	No	T3	IIA	No	R	F	A	No	15.19.6, 16.2.9
Wood lignin with sodium acetate/oxalate	Z	S/P	3	2G	Open	No	-	-	NF	O	No	No	No	
Xylenes	Y	P	2	2G	Cont	No	T1	IIA	No	R	F	A	No	15.19.6, 16.2.9 (h)
Xylenes/ethylbenzene (10% or more) mixture	Y	P	2	2G	Cont	No	T2	IIA	No	R	F	A	No	15.19.6
Xylenol	Y	S/P	2	2G	Open	No		IIA	Yes	O	No	AB	No	15.19.6, 16.2.9
Zinc alkaryl dithiophosphate (C7-C16)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6, 16.2.9
Zinc alkenyl carboxamide	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6
Zinc alkyl dithiophosphate (C3-C14)	Y	P	2	2G	Open	No			Yes	O	No	AB	No	15.19.6, 16.2.6

Chapter 17

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

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

c 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.

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

e Applies to n-decyl alcohol only.

f Dry chemical shall not be used as fire extinguishing media.

g Confined spaces shall be tested for both formic acid vapours and carbon monoxide gas, a decomposition product.

h Applies to p-xylene only.

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

j Only certain alcohol-resistant foams are effective.

k Requirements for Ship Type identified in *column e* might be subject to regulation 4.1.3 of Annex II of MARPOL 73/78.

l Applicable when the melting point is equal to or greater than 0°C.

m From vegetable oils, animal fats and fish oils specified in the IBC Code.

* Indicates that with reference to chapter 21 of the IBC Code (paragraph 21.1.3), deviations from the normal assignment criteria used for some carriage requirements have been implemented.

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Chapter 18

List of products to which the Code does not apply

18.1 The following are products, 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.

18.2 Although the products 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 shall prescribe appropriate safety requirements.

18.3 Some liquid substances are identified as falling into Pollution Category Z and, therefore, subject to certain requirements of Annex II of MARPOL.

18.4 Liquid mixtures which are assessed or provisionally assessed under regulation 6.3 of MARPOL Annex II as falling into Pollution Category Z or OS, and which do not present safety hazards, may be carried under the appropriate entry in this chapter for "Noxious or Non-Noxious Liquid Substances, not otherwise specified (n.o.s.)".

EXPLANATORY NOTES

Product name	The product name shall be used in the shipping document for any cargo offered for bulk shipments. Any additional name may be included in brackets after the product name. In some cases, the product names are not identical with the names given in previous issues of the Code.
Pollution Category	The letter Z means the Pollution Category assigned to each product under Annex II of MARPOL. OS means the product was evaluated and found to fall outside Categories X, Y, or Z.

Chapter 18 of the IBC Code

Product Name	Pollution Category
Acetone	Z
Alcoholic beverages, n.o.s.	Z
Apple juice	OS
n-Butyl alcohol	Z
sec-Butyl alcohol	Z
Calcium carbonate slurry	OS
Calcium nitrate solutions (50% or less)	Z
Clay slurry	OS
Coal slurry	OS
Diethylene glycol	Z
Ethyl alcohol	Z
Ethylene carbonate	Z
Glucose solution	OS
Glycerine	Z
Glycerol ethoxylated	OS
Hexamethylenetetramine solutions	Z
Hexylene glycol	Z
Hydrogenated starch hydrolysate	OS
Isopropyl alcohol	Z
Kaolin slurry	OS
Lecithin	OS
Magnesium hydroxide slurry	Z
Maltitol solution	OS
N-Methylglucamine solution (70% or less)	Z
Methyl propyl ketone	Z
Microsilica slurry	OS
Molasses	OS
Noxious liquid, (11) n.o.s. (trade name ...., contains ....) Cat. Z	Z
Non noxious liquid, (12) n.o.s. (trade name ...., contains ....) Cat. OS	OS
Orange juice (concentrated)	OS
Orange juice (not concentrated)	OS
Polyaluminium chloride solution	Z
Polyglycerin, sodium salt solution (containing less than 3% sodium hydroxide)	Z
Potassium chloride solution (less than 26%)	OS
Potassium formate solutions	Z
Propylene carbonate	Z
Propylene glycol	Z
Sodium acetate solutions	Z
Sodium bicarbonate solution (less than 10%)	OS
Sodium sulphate solutions	Z
Sorbitol solution	OS
Sulphonated polyacrylate solution	Z
Tetraethyl silicate monomer/oligomer (20% in ethanol)	Z
Triethylene glycol	Z
Vegetable protein solution (hydrolysed)	OS

Product Name	Pollution Category
Water	OS

Chapter 19

Index of Products Carried in Bulk

19.1 The first column of the Index of Products Carried in Bulk (hereafter referred to as "the Index") provides the so-called Index Name. Where the Index Name is in capitals and in bold, the Index Name is identical to the Product Name in either chapter 17 or chapter 18. The second column listing the relevant Product Name is therefore empty. Where the Index Name is non-bold lower case it reflects a synonym for which the Product Name in either chapter 17 or chapter 18 is given in the second column. The relevant chapter of the IBC Code is reflected in the third column.

19.2 Following a review of chapter 19, a column listing UN numbers which was previously included has been removed from the Index. Since UN numbers are only available for a limited number of Index Names and there are inconsistencies between some of the names used in chapter 19 and those linked to UN numbers, it was decided to remove UN number references in order to avoid any confusion.

19.3 The Index has been developed for information purposes only. None of the Index Names indicated in non-bold lower case in the first column shall be used as the Product Name on the shipping document.

19.4 Prefixes forming an integral part of the name are shown in ordinary (roman) type and are taken into account in determining the alphabetical order of entries. These include such prefixes as:

Mono Di Tri Tetra Penta Iso Bis Neo Ortho Cyclo

19.5 Prefixes that are disregarded for purposes of alphabetical order are in italics and include the following:

n-	(normal-)
sec-	(secondary-)
tert-	(tertiary-)
o-	(ortho-)
m-	(meta-)
p-	(para-)
N-	
O-	
S-	
sym-	(symmetrical)
uns-	(unsymmetrical)
dl-	
D-	
L-	
cis-	
trans-	
(E)-	
(Z)-	
alpha-	(α-)
beta-	(β-)
gamma-	(γ-)
epsilon	(ε-)
omega	(ω-)

19.6 The Index utilizes a note after the index name for some entries (shown as (a) or (b)) which indicates that the following qualifications apply:

(a) this Index Name represents a subset of the corresponding Product Name.

(b) The Product Name corresponding to this Index Name contains a carbon chain length qualification. Since the Index Name should always represent a subset or be an exact synonym of the corresponding Product Name, the carbon chain length characteristics should be checked for any product identified by this Index Name.

Index Name	Product Name	Chapter
Abietic anhydride	**ROSIN**	17
acedimethylamide	**N,N-DIMETHYLACETAMIDE**	17
Acetaldehyde cyanohydrin solution (80% or less)	**LACTONITRILE SOLUTION (80% OR LESS)**	17
Acetaldehyde trimer	**PARALDEHYDE**	17
ACETIC ACID		17
Acetic acid anhydride	**ACETIC ANHYDRIDE**	17
Acetic acid, ethenyl ester	**VINYL ACETATE**	17
Acetic acid, methyl ester	**METHYL ACETATE**	17
Acetic acid, vinyl ester	**VINYL ACETATE**	17
ACETIC ANHYDRIDE		17
Acetic ester	**ETHYL ACETATE**	17
Acetic ether	**ETHYL ACETATE**	17
Acetic oxide	**ACETIC ANHYDRIDE**	17
Acetoacetic acid, methyl ester	**METHYL ACETOACETATE**	17
Acetoacetic ester	**ETHYL ACETOACETATE**	17
ACETOCHLOR		17
ACETONE		18
ACETONE CYANOHYDRIN		17
ACETONITRILE		17
ACETONITRILE (LOW PURITY GRADE)		17
Acetyl anhydride	**ACETIC ANHYDRIDE**	17
Acetylene tetrachloride	**TETRACHLOROETHANE**	17
Acetyl ether	**ACETIC ANHYDRIDE**	17
Acetyl oxide	**ACETIC ANHYDRIDE**	17
ACID OIL MIXTURE FROM SOYABEAN, CORN (MAIZE) AND SUNFLOWER OIL REFINING		17
Acroleic acid	**ACRYLIC ACID**	17
ACRYLAMIDE SOLUTION (50% OR LESS)		17
ACRYLIC ACID		17
Acrylic acid, 2-hydroxyethyl ester	**2-HYDROXYETHYL ACRYLATE**	17
Acrylic amide solution, 50% or less	**ACRYLAMIDE SOLUTION (50% OR LESS)**	17
Acrylic resin monomer	**METHYL METHACRYLATE**	17
ACRYLONITRILE		17
ACRYLONITRILE-STYRENE COPOLYMER DISPERSION IN POLYETHER POLYOL		17
Adipic acid, bis(2-ethylhexyl) ester	**DI-(2-ETHYLHEXYL) ADIPATE**	17
ADIPONITRILE		17
ALACHLOR TECHNICAL (90% OR MORE)		17
Alcohol	**ETHYL ALCOHOL**	18
Alcohol, C10	**DECYL ALCOHOL (ALL ISOMERS)**	17
Alcohol, C11	**UNDECYL ALCOHOL**	17
Alcohol, C12	**DODECYL ALCOHOL**	17
Alcohol, C7 (a)	**HEPTANOL (ALL ISOMERS) (D)**	17
Alcohol, C8	**OCTANOL (ALL ISOMERS)**	17
Alcohol, C9	**NONYL ALCOHOL (ALL ISOMERS)**	17
ALCOHOLIC BEVERAGES, N.O.S.		18
ALCOHOL (C9-C11) POLY (2.5-9) ETHOXYLATE		17

Index Name	Product Name	Chapter
ALCOHOL (C6-C17) (SECONDARY) POLY(3-6) ETHOXYLATES		17
ALCOHOL (C6-C17) (SECONDARY) POLY(7-12) ETHOXYLATES		17
ALCOHOL (C12-C16) POLY(1-6)ETHOXYLATES		17
ALCOHOL (C12-C16) POLY(20+)ETHOXYLATES		17
ALCOHOL (C12-C16) POLY(7-19)ETHOXYLATES		17
ALCOHOLS (C13+)		17
Alcohols, C13 - C15	**ALCOHOLS (C13+)**	17
ALCOHOLS (C12+), PRIMARY, LINEAR		17
ALCOHOLS (C8-C11), PRIMARY, LINEAR AND ESSENTIALLY LINEAR		17
ALCOHOLS (C12-C13), PRIMARY, LINEAR AND ESSENTIALLY LINEAR		17
ALCOHOLS (C14-C18), PRIMARY, LINEAR AND ESSENTIALLY LINEAR		17
Aldehyde collidine	**2-METHYL-5-ETHYL PYRIDINE**	17
Aldehydine	**2-METHYL-5-ETHYL PYRIDINE**	17
ALKANES (C6-C9)		17
ISO- AND CYCLO-ALKANES (C10-C11)		17
ISO- AND CYCLO-ALKANES (C12+)		17
ALKANES(C10-C26), LINEAR AND BRANCHED, (FLASHPOINT >60°C)		17
N-ALKANES (C10+)		17
Alkane(C10-C18)sulfonic acid, phenyl ester (a)	**ALKYL SULPHONIC ACID ESTER OF PHENOL**	17
ALKARYL POLYETHERS (C9-C20)		17
ALKENOIC ACID, POLYHYDROXY ESTER BORATED		17
ALKENYL (C11+) AMIDE		17
ALKENYL (C16-C20) SUCCINIC ANHYDRIDE		17
ALKYL ACRYLATE-VINYLPYRIDINE COPOLYMER IN TOLUENE		17
ALKYLARYL PHOSPHATE MIXTURES (MORE THAN 40% DIPHENYL TOLYL PHOSPHATE, LESS THAN 0.02% ORTHO-ISOMERS)		17
ALKYLATED (C4-C9) HINDERED PHENOLS		17
ALKYLBENZENE, ALKYLINDANE, ALKYLINDENE MIXTURE (EACH C12-C17)		17
ALKYL BENZENE DISTILLATION BOTTOMS		17
ALKYLBENZENE MIXTURES (CONTAINING AT LEAST 50% OF TOLUENE)		17
ALKYL (C3-C4) BENZENES		17
ALKYL (C5-C8) BENZENES		17
ALKYL(C9+)BENZENES		17
ALKYL (C11-C17) BENZENE SULPHONIC ACID		17
ALKYLBENZENE SULPHONIC ACID, SODIUM SALT SOLUTION		17
ALKYL (C12+) DIMETHYLAMINE		17
ALKYL DITHIOCARBAMATE (C19-C35)		17
ALKYLDITHIOTHIADIAZOLE (C6-C24)		17
ALKYL ESTER COPOLYMER (C4-C20)		17

Index Name	Product Name	Chapter
ALKYL (C8-C10)/(C12-C14):(40% OR LESS/60% OR MORE) POLYGLUCOSIDE SOLUTION (55% OR LESS)		17
ALKYL (C8-C10)/(C12-C14):(60% OR MORE/40% OR LESS) POLYGLUCOSIDE SOLUTION(55% OR LESS)		17
ALKYL (C7-C9) NITRATES		17
2,2'- [3-(Alkyl(C16-C18)oxy)propylimino]diethanol (a)	**ETHOXYLATED LONG CHAIN (C16+) ALKYLOXYALKYLAMINE**	17
ALKYL(C7-C11)PHENOL POLY(4-12) ETHOXYLATE		17
ALKYL (C8-C40) PHENOL SULPHIDE		17
ALKYL (C8-C9) PHENYLAMINE IN AROMATIC SOLVENTS		17
ALKYL (C9-C15) PHENYL PROPOXYLATE		17
ALKYL (C8-C10) POLYGLUCOSIDE SOLUTION (65% OR LESS)		17
ALKYL (C8-C10)/(C12-C14):(50%/50%) POLYGLUCOSIDE SOLUTION (55% OR LESS)		17
ALKYL (C12-C14) POLYGLUCOSIDE SOLUTION (55% OR LESS)		17
ALKYL(C12-C16) PROPOXYAMINE ETHOXYLATE		17
ALKYL(C10-C20, SATURATED AND UNSATURATED) PHOSPHITE		17
ALKYL SULPHONIC ACID ESTER OF PHENOL		17
ALKYL (C18+) TOLUENES		17
ALKYL(C18-C28)TOLUENESULFONIC ACID		17
ALKYL(C18-C28)TOLUENESULFONIC ACID, CALCIUM SALTS, BORATED		17
Alkyltoluenesulfonic acid, calcium salts, high overbase (up to 70% in mineral oil)	**ALKYL (C18-C28) TOLUENESULPHONIC ACID, CALCIUM SALTS, HIGH OVERBASE**	17
ALKYL (C18-C28) TOLUENESULFONIC ACID, CALCIUM SALTS, LOW OVERBASE		17
Alkyl(C18-C28)toluenesulfonic acid,calcium salts, low overbase (up to 60% in mineral oil)	**ALKYL (C18-C28) TOLUENESULFONIC ACID, CALCIUM SALTS, LOW OVERBASE**	17
ALKYL (C18-C28) TOLUENESULPHONIC ACID, CALCIUM SALTS, HIGH OVERBASE		17
3-Alky(C16-C18)oxy-N,N'-bis(2-hydroxyethyl)propan-1-amine (a)	**ETHOXYLATED LONG CHAIN (C16+) ALKYLOXYALKYLAMINE**	17
ALLYL ALCOHOL		17
ALLYL CHLORIDE		17
ALUMINIUM CHLORIDE/HYDROGEN CHLORIDE SOLUTION		17
Aluminium silicate hydroxide	**KAOLIN SLURRY**	18
ALUMINIUM SULPHATE SOLUTION		17
Aminoacetic acid, sodium salt solution	**GLYCINE, SODIUM SALT SOLUTION**	17
1-Amino-3-aminomethyl-3,5,5-trimethylcyclohexane	**ISOPHORONEDIAMINE**	17
Aminobenzene	**ANILINE**	17
1-Aminobutane (a)	**BUTYLAMINE (ALL ISOMERS)**	17
2-Aminobutane	**BUTYLAMINE (ALL ISOMERS)**	17
Aminocyclohexane	**CYCLOHEXYLAMINE**	17
Aminoethane	**ETHYLAMINE**	17
Aminoethane solutions, 72% or less	**ETHYLAMINE SOLUTIONS (72% OR LESS)**	17

Index Name	Product Name	Chapter
2-Aminoethanol	**ETHANOLAMINE**	17
2-(2-AMINOETHOXY) ETHANOL		17
2-(2-Aminoethylamino)ethanol	**AMINOETHYL ETHANOLAMINE**	17
AMINOETHYLDIETHANOLAMINE/AMINOETHYLETHANOLAMINE SOLUTION		17
AMINOETHYL ETHANOLAMINE		17
N-(2-aminoethyl)ethylenediamine	**DIETHYLENETRIAMINE**	17
1-(2-Aminoethyl)piperazine	**N-AMINOETHYLPIPERAZINE**	17
N-AMINOETHYLPIPERAZINE		17
2-Aminoisobutane (a)	**BUTYLAMINE (ALL ISOMERS)**	17
Aminomethane solutions, 42% or less	**METHYLAMINE SOLUTIONS (42% OR LESS)**	17
1-Amino-2-methylbenzene	**O-TOLUIDINE**	17
2-Amino-1-methylbenzene	**O-TOLUIDINE**	17
2-AMINO-2-METHYL-1-PROPANOL		17
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	**ISOPHORONEDIAMINE**	17
Aminophen	**ANILINE**	17
1-Aminopropane	**N-PROPYLAMINE**	17
2-Aminopropane	**ISOPROPYLAMINE**	17
2-Aminopropane (70% or less) solution	**ISOPROPYLAMINE (70% OR LESS) SOLUTION**	17
1-Amino-2-propanol	**ISOPROPANOLAMINE**	17
1-Aminopropan-2-ol	**ISOPROPANOLAMINE**	17
3-Aminopropan-1-ol	**N-PROPANOLAMINE**	17
2-Aminotoluene	**O-TOLUIDINE**	17
o-Aminotoluene	**O-TOLUIDINE**	17
5-Amino-1,3,3-trimethylcyclohexylmethylamine	**ISOPHORONEDIAMINE**	17
AMMONIA AQUEOUS (28% OR LESS)		17
Ammonia water, 28% or less	**AMMONIA AQUEOUS (28% OR LESS)**	17
AMMONIUM CHLORIDE SOLUTION (LESS THAN 25%) (*)		17
AMMONIUM HYDROGEN PHOSPHATE SOLUTION		17
Ammonium hydroxide, 28% or less	**AMMONIA AQUEOUS (28% OR LESS)**	17
AMMONIUM LIGNOSULPHONATE SOLUTIONS		17
AMMONIUM NITRATE SOLUTION (93% OR LESS)		17
AMMONIUM POLYPHOSPHATE SOLUTION		17
AMMONIUM SULPHATE SOLUTION		17
AMMONIUM SULPHIDE SOLUTION (45% OR LESS)		17
AMMONIUM THIOSULPHATE SOLUTION (60% OR LESS)		17
AMYL ACETATE (ALL ISOMERS)		17
Amyl acetate, commercial (a)	**AMYL ACETATE (ALL ISOMERS)**	17
n-Amyl acetate (a)	**AMYL ACETATE (ALL ISOMERS)**	17
sec-Amyl acetate (a)	**AMYL ACETATE (ALL ISOMERS)**	17
Amylacetic ester (a)	**AMYL ACETATE (ALL ISOMERS)**	17
Amyl alcohol	**N-AMYL ALCOHOL**	17
N-AMYL ALCOHOL		17
AMYL ALCOHOL, PRIMARY		17

Index Name	Product Name	Chapter
SEC-AMYL ALCOHOL		17
TERT-AMYL ALCOHOL		17
Amyl aldehyde	**VALERALDEHYDE (ALL ISOMERS)**	17
Amylcarbinol	**HEXANOL**	17
Amylene hydrate	**TERT-AMYL ALCOHOL**	17
Amyl ethyl ketone	**ETHYL AMYL KETONE**	17
TERT-AMYL METHYL ETHER		17
n-Amyl methyl ketone	**METHYL AMYL KETONE**	17
n-Amyl propionate	**N-PENTYL PROPIONATE**	17
Anaesthetic ether	**DIETHYL ETHER**	17
ANILINE		17
Aniline oil	**ANILINE**	17
Anilinobenzene	**DIPHENYLAMINE (MOLTEN)**	17
Anthracene oil (coal tar fraction) (a)	**COAL TAR**	17
Ant oil, artificial	**FURFURAL**	17
APPLE JUICE		18
Aqua fortis	**NITRIC ACID (70% AND OVER)**	17
Argilla	**KAOLIN SLURRY**	18
ARYL POLYOLEFINS (C11-C50)		17
AVIATION ALKYLATES (C8 PARAFFINS AND ISO-PARAFFINS BPT 95 - 120°C)		17
Azacycloheptane	**HEXAMETHYLENEIMINE**	17
3-Azapentane-1,5-diamine	**DIETHYLENETRIAMINE**	17
Azepane	**HEXAMETHYLENEIMINE**	17
Azotic acid	**NITRIC ACID (70% AND OVER)**	17
BARIUM LONG CHAIN (C11-C50) ALKARYL SULPHONATE		17
Basic calcium alkyl salicylate in approximately 30% mineral oil (b)	**CALCIUM LONG-CHAIN ALKYL SALICYLATE (C13+)**	17
Battery acid	**SULPHURIC ACID**	17
Behenyl alcohol (a)	**ALCOHOLS (C13+)**	17
Benzenamine	**ANILINE**	17
1,4-Benzenedicarboxylic acid, butyl ester	**DIBUTYL TEREPHTHALATE**	17
1,2-Benzenedicarboxylic acid, diethyl ester	**DIETHYL PHTHALATE**	17
1,2-Benzenedicarboxylic acid, diundecyl ester	**DIUNDECYL PHTHALATE**	17
BENZENE AND MIXTURES HAVING 10% BENZENE OR MORE (I)		17
BENZENESULPHONYL CHLORIDE	**BENZENE SULPHONYL CHLORIDE**	17
BENZENE SULPHONYL CHLORIDE		17
BENZENETRICARBOXYLIC ACID, TRIOCTYL ESTER		17
Benzenol	**PHENOL**	17
Benzol	**BENZENE AND MIXTURES HAVING 10% BENZENE OR MORE (I)**	17
Benzole	**BENZENE AND MIXTURES HAVING 10% BENZENE OR MORE (I)**	17
Benzophenol	**PHENOL**	17
2-Benzothiazolethiol, sodium salt solution	**MERCAPTOBENZOTHIAZOL, SODIUM SALT SOLUTION**	17

Index Name	Product Name	Chapter
Benzothiazole-2-thiol, sodium salt solution	**MERCAPTOBENZOTHIAZOL, SODIUM SALT SOLUTION**	17
(2-Benzothiazolylthio) sodium solution	**MERCAPTOBENZOTHIAZOL, SODIUM SALT SOLUTION**	17
BENZYL ACETATE		17
BENZYL ALCOHOL		17
Benzyl butyl phthalate	**BUTYL BENZYL PHTHALATE**	17
BENZYL CHLORIDE		17
Betaprone	**BETA-PROPIOLACTONE**	17
Betula oil	**METHYL SALICYLATE**	17
Biformyl	**GLYOXAL SOLUTION (40% OR LESS)**	17
BIO-FUEL BLENDS OF DIESEL/GAS OIL AND ALKANES (C10-C26), LINEAR AND BRANCHED WITH A FLASHPOINT >60°C (>25% BUT <99% BY VOLUME)		17
BIO-FUEL BLENDS OF DIESEL/GAS OIL AND ALKANES (C10-C26), LINEAR AND BRANCHED WITH A FLASHPOINT Ò60ÁC (>25% BUT <99% BY VOLUME)		17
BIO-FUEL BLENDS OF DIESEL/GAS OIL AND FAME (>25% BUT <99% BY VOLUME)		17
BIO-FUEL BLENDS OF DIESEL/GAS OIL AND VEGETABLE OIL (>25% BUT <99% BY VOLUME)		17
BIO-FUEL BLENDS OF GASOLINE AND ETHYL ALCOHOL (>25% BUT <99% BY VOLUME)		17
Biphenyl	**DIPHENYL**	17
Bis(methylcyclopentadiene)	**METHYLCYCLOPENTADIENE DIMER**	17
2,5-Bis(alkyl(C7+)thio)-1,3,4-thiadiazole	**ALKYLDITHIOTHIADIAZOLE (C6-C24)**	17
Bis(2-aminoethyl)amine	**DIETHYLENETRIAMINE**	17
N,N'-Bis(2-aminoethyl)ethane-1,2-diamine	**TRIETHYLENETETRAMINE**	17
N,N'-Bis(2-aminoethyl)ethylenediamine	**TRIETHYLENETETRAMINE**	17
N,N-Bis(2-(bis(carboxymethyl)amino)ethyl)glycine, pentasodium salt solution	**DIETHYLENETRIAMINEPENTAACETIC ACID, PENTASODIUM SALT SOLUTION**	17
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Sodium tetrahydroborate (15% or less) / sodium hydroxide solution	**SODIUM BOROHYDRIDE (15% OR LESS)/SODIUM HYDROXIDE SOLUTION**	17
SODIUM THIOCYANATE SOLUTION (56% OR LESS)		17
Sodium tolyl oxides solution	**CRESYLIC ACID, SODIUM SALT SOLUTION**	17
'D-D Soil fumigant'	**DICHLOROPROPENE/DICHLOROPROPANE MIXTURES**	17
d-Sorbite solution	**SORBITOL SOLUTION**	18
SORBITOL SOLUTION		18
d-Sorbitol solution	**SORBITOL SOLUTION**	18
SOYABEAN OIL		17
Spirit of turpentine	**TURPENTINE**	17
Spirits of wine	**ETHYL ALCOHOL**	18
Stoddard solvent	**WHITE SPIRIT, LOW (15-20%) AROMATIC**	17
STYRENE MONOMER		17
Styrol	**STYRENE MONOMER**	17
Suberane	**CYCLOHEPTANE**	17
Sulfonic acid, alkane(C10-C21) phenyl ester (a)	**ALKYL SULPHONIC ACID ESTER OF PHENOL**	17
SULPHOHYDROCARBON (C3-C88)		17
SULPHOLANE		17
SULPHONATED POLYACRYLATE SOLUTION		18
SULPHUR (MOLTEN)		17
SULPHURIC ACID		17
Sulphuric acid, fuming	**OLEUM**	17
SULPHURIC ACID, SPENT		17
Sulphuric chlorohydrin	**CHLOROSULPHONIC ACID**	17
Sulphuric ether	**DIETHYL ETHER**	17
SULPHURIZED FAT (C14-C20)		17
SULPHURIZED POLYOLEFINAMIDE ALKENE (C28-C250) AMINE		17
SUNFLOWER SEED OIL		17
Sweet-birch oil	**METHYL SALICYLATE**	17
sym-Dichloroethane	**ETHYLENE DICHLORIDE**	17
sym-Dichloroethyl ether	**DICHLOROETHYL ETHER**	17
sym-Diisopropylacetone	**DIISOBUTYL KETONE**	17
sym-Dimethylethylene glycol	**BUTYLENE GLYCOL**	17
sym-Tetrachloroethane	**TETRACHLOROETHANE**	17
sym-Trioxane	**1,3,5-TRIOXANE**	17
TALL OIL, CRUDE		17
TALL OIL, DISTILLED		17
TALL OIL FATTY ACID (RESIN ACIDS LESS THAN 20%)		17
TALL OIL PITCH		17
TALLOW		17
TALLOW FATTY ACID		17
Tar acids (cresols)	**CRESOLS (ALL ISOMERS)**	17
Tar camphor	**NAPHTHALENE (MOLTEN)**	17

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3,6,9,12-Tetraazatetradecamethylenediamine	**PENTAETHYLENEHEXAMINE**	17
3,6,9,12-Tetraazatetradecane-1,14-diamine	**PENTAETHYLENEHEXAMINE**	17
1,3,5,7-Tetraazatricyclo[3.3.1.13,7]decane	**HEXAMETHYLENETETRAMINE SOLUTIONS**	18
TETRACHLOROETHANE		17
1,1,2,2-Tetrachloroethane	**TETRACHLOROETHANE**	17
Tetrachloroethylene	**PERCHLOROETHYLENE**	17
1,1,2,2-tetrachloroethylene	**PERCHLOROETHYLENE**	17
Tetrachloromethane	**CARBON TETRACHLORIDE**	17
Tetradecan-1-o1	**ALCOHOLS (C14-C18), PRIMARY, LINEAR AND ESSENTIALLY LINEAR**	17
1-Tetradecanol	**ALCOHOLS (C14-C18), PRIMARY, LINEAR AND ESSENTIALLY LINEAR**	17
Tetradecene (a)	**OLEFINS (C13+, ALL ISOMERS)**	17
Tetradecylbenzene	**ALKYL(C9+)BENZENES**	17
TETRAETHYLENE GLYCOL		17
TETRAETHYLENE PENTAMINE		17
Tetraethyllead	**MOTOR FUEL ANTI-KNOCK COMPOUND (CONTAINING LEAD ALKYLS)**	17
Tetraethylplumbane	**MOTOR FUEL ANTI-KNOCK COMPOUND (CONTAINING LEAD ALKYLS)**	17
TETRAETHYL SILICATE MONOMER/OLIGOMER (20% IN ETHANOL)		18
3a,4,7,7a-Tetrahydro-3,5-dimethyl-4,7-methano-1H-indene	**METHYLCYCLOPENTADIENE DIMER**	17
TETRAHYDROFURAN		17
TETRAHYDRONAPHTHALENE		17
1,2,3,4-Tetrahydronapthalene	**TETRAHYDRONAPHTHALENE**	17
Tetrahydro-1,4-oxazine	**MORPHOLINE**	17
2H-Tetrahydro-1,4-oxazine	**MORPHOLINE**	17
Tetrahydro-2H-1,4-oxazine	**MORPHOLINE**	17
Tetrahydrothiophene-1-dioxide	**SULPHOLANE**	17
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1,2,3,4-Tetramethylbenzene (a)	**TETRAMETHYLBENZENE (ALL ISOMERS)**	17
1,2,3,5-Tetramethylbenzene (a)	**TETRAMETHYLBENZENE (ALL ISOMERS)**	17
1,2,4,5-Tetramethylbenzene (a)	**TETRAMETHYLBENZENE (ALL ISOMERS)**	17
Tetramethylene cyanide	**ADIPONITRILE**	17
Tetramethylene dicyanide	**ADIPONITRILE**	17
Tetramethylene glycol (a)	**BUTYLENE GLYCOL**	17
Tetramethylene oxide	**TETRAHYDROFURAN**	17
Tetramethylenesulphone	**SULPHOLANE**	17
Tetramethyllead	**MOTOR FUEL ANTI-KNOCK COMPOUND (CONTAINING LEAD ALKYLS)**	17
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Tetrapropylenebenzene	**DODECYLBENZENE**	17
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Index Name	Product Name	Chapter
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Thiosulphuric acid, dipotassium salt (50% or less)	**POTASSIUM THIOSULPHATE (50% OR LESS)**	17
Titaniuim(IV) oxide slurry	**TITANIUM DIOXIDE SLURRY**	17
TITANIUM DIOXIDE SLURRY		17
TOLUENE		17
TOLUENEDIAMINE		17
2,4-Toluenediamine (a)	**TOLUENEDIAMINE**	17
2,6-Toluenediamine (a)	**TOLUENEDIAMINE**	17
TOLUENE DIISOCYANATE		17
2-Toluidine	**O-TOLUIDINE**	17
O-TOLUIDINE		17
Toluol	**TOLUENE**	17
o-Tolylamine	**O-TOLUIDINE**	17
2,4-Tolylenediamine (a)	**TOLUENEDIAMINE**	17
2,6-Tolylenediamine (a)	**TOLUENEDIAMINE**	17
Tolylenediisocyanate	**TOLUENE DIISOCYANATE**	17
2,4-Tolylene diisocyanate	**TOLUENE DIISOCYANATE**	17
m-Tolylene diisocyanate	**TOLUENE DIISOCYANATE**	17
Toxilic anhydride	**MALEIC ANHYDRIDE**	17
Treacle (a)	**MOLASSES**	18
Triacetin	**GLYOXAL SOLUTION (40% OR LESS)**	17
3,6,9-Triazaundecamethylenediamine	**TETRAETHYLENE PENTAMINE**	17
3,6,9-Triazaundecane-1,11-diamine	**TETRAETHYLENE PENTAMINE**	17
TRIBUTYL PHOSPHATE		17
1,2,3-TRICHLOROBENZENE (MOLTEN)		17
1,2,4-TRICHLOROBENZENE		17
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1,1,2-TRICHLOROETHANE		17
beta-Trichloroethane	**1,1,2-TRICHLOROETHANE**	17
Trichloroethene	**TRICHLOROETHYLENE**	17
TRICHLOROETHYLENE		17
Trichloromethane	**CHLOROFORM**	17
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TRICRESYL PHOSPHATE (CONTAINING 1% OR MORE ORTHO-ISOMER)		17
TRICRESYL PHOSPHATE (CONTAINING LESS THAN 1% ORTHO-ISOMER)		17
TRIDECANE		17
TRIDECANOIC ACID		17
Tridecanol (a)	**ALCOHOLS (C13+)**	17
Tridecene (a)	**OLEFINS (C13+, ALL ISOMERS)**	17
Tridecoic acid	**TRIDECANOIC ACID**	17
TRIDECYL ACETATE		17
Tridecyl alcohol (a)	**ALCOHOLS (C13+)**	17
Tridecylbenzene	**ALKYL(C9+)BENZENES**	17
Tridecylic acid	**TRIDECANOIC ACID**	17

Index Name	Product Name	Chapter
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Tri(dimethylphenyl) phosphate (all isomers)	**TRIXYLYL PHOSPHATE**	17
TRIETHANOLAMINE		17
TRIETHYLAMINE		17
TRIETHYLBENZENE		17
TRIETHYLENE GLYCOL		18
Triethylene glycol butyl ether (a)	**POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6) ETHER**	17
Triethylene glycol ethyl ether (a)	**POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6) ETHER**	17
Triethylene glycol methyl ether (a)	**POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6) ETHER**	17
Triethylene glycol monobutyl ether (a)	**POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6) ETHER**	17
TRIETHYLENETETRAMINE		17
TRIETHYL PHOSPHATE		17
TRIETHYL PHOSPHITE		17
Triformol	**1,3,5-TRIOXANE**	17
Triglycol	**TRIETHYLENE GLYCOL**	18
Trihydroxypropane	**GLYCERINE**	18
Trihydroxytriethylamine	**TRIETHANOLAMINE**	17
TRIISOPROPANOLAMINE		17
TRIISOPROPYLATED PHENYL PHOSPHATES		17
TRIMETHYLACETIC ACID		17
TRIMETHYLAMINE SOLUTION (30% OR LESS)		17
TRIMETHYLBENZENE (ALL ISOMERS)		17
1,2,3-Trimethylbenzene (a)	**TRIMETHYLBENZENE (ALL ISOMERS)**	17
1,2,4-Trimethylbenzene (a)	**TRIMETHYLBENZENE (ALL ISOMERS)**	17
1,3,5-Trimethylbenzene (a)	**TRIMETHYLBENZENE (ALL ISOMERS)**	17
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	**ALPHA-PINENE**	17
Trimethylcarbinol	**TERT-BUTYL ALCOHOL**	17
1,1,3-Trimethyl-3-cyclohexene-5-one	**ISOPHORONE**	17
3,5,5-Trimethylcyclohex-2-enone	**ISOPHORONE**	17
3,5,5-Trimethylcyclohex-2-en-one	**ISOPHORONE**	17
TRIMETHYLOL PROPANE PROPOXYLATED		17
2,2,4-Trimethylpentane (a)	**OCTANE (ALL ISOMERS)**	17
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2,2,4-Trimethylpentane-1,3-diol diisobutyrate	**2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE**	17
2,2,4-TRIMETHYL-1,3-PENTANEDIOL-1-ISOBUTYRATE		17
2,4,4-Trimethylpentene-1	**DIISOBUTYLENE**	17
2,4,4-Trimethylpent-1-ene	**DIISOBUTYLENE**	17
2,4,4-Trimethylpentene-2	**DIISOBUTYLENE**	17
2,4,4-Trimethylpent-2-ene	**DIISOBUTYLENE**	17
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2,4,6-Trimethyl-s-trioxane	**PARALDEHYDE**	17
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Index Name	Product Name	Chapter
5,8,11-Trioxapentadecane	**DIETHYLENE GLYCOL DIBUTYL ETHER**	17
3,6,9-Trioxaundecane	**DIETHYLENE GLYCOL DIETHYL ETHER**	17
Trioxymethylene	**1,3,5-TRIOXANE**	17
Tripropylene	**PROPYLENE TRIMER**	17
TRIPROPYLENE GLYCOL		17
Tripropylene glycol methyl ether (a)	**POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6) ETHER**	17
Tris(dimethylphenyl) phosphate (all isomers)	**TRIXYLYL PHOSPHATE**	17
Tris(2-hydroxyethyl)amine	**TRIETHANOLAMINE**	17
2,4-D-tris(2-hydroxy-2-methylethyl)ammonium	**2,4-DICHLOROPHENOXYACETIC ACID, TRIISOPROPANOLAMINE SALT SOLUTION**	17
Tris(2-hydroxypropyl)amine	**TRIISOPROPANOLAMINE**	17
Tris(2-hydroxy-1-propyl)amine	**TRIISOPROPANOLAMINE**	17
Tris(2-hydroxypropyl)ammonium 2,4-dichlorophenoxyacetate solution	**2,4-DICHLOROPHENOXYACETIC ACID, TRIISOPROPANOLAMINE SALT SOLUTION**	17
Trisodium 2-[carboxylatomethyl(2-hydroxyethyl)amino] ethyliminodi(acetate) solution	**N-(HYDROXYETHYL)ETHYLENEDIAMINETRIACETIC ACID, TRISODIUM SALT SOLUTION**	17
Trisodium N-(carboxymethyl)-N'-(2-hydroxyethyl)-N,N'-ethylenediglycine solution	**N-(HYDROXYETHYL)ETHYLENEDIAMINETRIACETIC ACID, TRISODIUM SALT SOLUTION**	17
Trisodium N-(2-hydroxyethyl)ethylenediamine-N,N',N'-triacetate solution	**N-(HYDROXYETHYL)ETHYLENEDIAMINETRIACETIC ACID, TRISODIUM SALT SOLUTION**	17
Trisodium nitrilotriacetate solution	**NITRILOTRIACETIC ACID, TRISODIUM SALT SOLUTION**	17
Tritolyl phosphate, containing less than 1% ortho- isomer	**TRICRESYL PHOSPHATE (CONTAINING LESS THAN 1% ORTHO-ISOMER)**	17
Tritolyl phosphate, containing 1% or more ortho- isomer	**TRICRESYL PHOSPHATE (CONTAINING 1% OR MORE ORTHO-ISOMER)**	17
Trixylenyl phosphate	**TRIXYLYL PHOSPHATE**	17
TRIXYLYL PHOSPHATE		17
TUNG OIL		17
TURPENTINE		17
Turpentine oil	**TURPENTINE**	17
Turps	**TURPENTINE**	17
Type A Zeolite slurry (a)	**SODIUM ALUMINOSILICATE SLURRY**	17
1-Undecanecarboxylic acid	**LAURIC ACID**	17
N-Undecane (a)	**N-ALKANES (C10+)**	17
UNDECANOIC ACID		17
Undecan-1-ol	**UNDECYL ALCOHOL**	17
1-UNDECENE		17
Undec-1-ene	**1-UNDECENE**	17
UNDECYL ALCOHOL		17
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Undecylic acid	**UNDECANOIC ACID**	17
n-Undecylic acid	**UNDECANOIC ACID**	17
uns-Trimethylbenzene (a)	**TRIMETHYLBENZENE (ALL ISOMERS)**	17
unsym-Trichlorobenzene	**1,2,4-TRICHLOROBENZENE**	17
UREA/AMMONIUM NITRATE SOLUTION		17
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Index Name	Product Name	Chapter
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VALERALDEHYDE (ALL ISOMERS)		17
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Valerianic acid	**PENTANOIC ACID**	17
Valeric acid	**PENTANOIC ACID**	17
n-Valeric acid	**PENTANOIC ACID**	17
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Valerone	**DIISOBUTYL KETONE**	17
VEGETABLE ACID OILS (M)		17
VEGETABLE FATTY ACID DISTILLATES (M)		17
VEGETABLE PROTEIN SOLUTION (HYDROLYSED)		18
Vinegar acid	**ACETIC ACID**	17
Vinegar naphtha	**ETHYL ACETATE**	17
VINYL ACETATE		17
Vinylbenzene	**STYRENE MONOMER**	17
Vinylcarbinol	**ALLYL ALCOHOL**	17
Vinyl cyanide	**ACRYLONITRILE**	17
vinyl ethanoate	**VINYL ACETATE**	17
VINYL ETHYL ETHER		17
Vinylformic acid	**ACRYLIC ACID**	17
VINYLIDENE CHLORIDE		17
VINYL NEODECANOATE		17
VINYLTOLUENE		17
Vinyltoluene (all isomers)	**VINYLTOLUENE**	17
Vinyl trichloride	**1,1,2-TRICHLOROETHANE**	17
Vitriol brown oil	**SULPHURIC ACID**	17
WATER		18
Water glass solutions	**SODIUM SILICATE SOLUTION**	17
WAXES		17
White bole	**KAOLIN SLURRY**	18
White caustic solution	**SODIUM HYDROXIDE SOLUTION**	17
WHITE SPIRIT, LOW (15-20%) AROMATIC		17
White tar	**NAPHTHALENE (MOLTEN)**	17
Wine (a)	**ALCOHOLIC BEVERAGES, N.O.S.**	18
Wintergreen oil	**METHYL SALICYLATE**	17
Wood alcohol	**METHYL ALCOHOL**	17
WOOD LIGNIN WITH SODIUM ACETATE/OXALATE		17
Wood naphtha	**METHYL ALCOHOL**	17
Wood spirit	**METHYL ALCOHOL**	17
XYLENES		17
XYLENES/ETHYLBENZENE (10% OR MORE) MIXTURE		17
XYLENOL		17
Xylenol (all isomers)	**XYLENOL**	17
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2,4-Xylenol (a)	**XYLENOL**	17

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2,6-Xylenol (a)	**XYLENOL**	17
3,4-Xylenol (a)	**XYLENOL**	17
3,5-Xylenol (a)	**XYLENOL**	17
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(Z)-Octadec-9-enoic acid	**OLEIC ACID**	17
Z-Octadec-9-enoic acid	**OLEIC ACID**	17
(Z)-Octadec-9-enylamine	**OLEYLAMINE**	17

ANNEX 13

DRAFT AMENDMENTS TO FORM A AND FORM B OF SUPPLEMENTS TO THE IOPP CERTIFICATE UNDER MARPOL ANNEX I

1 Amendments to the Supplement to the IOPP Certificate (Form A)

The existing paragraph 3.2.1 is replaced by the following:

"3.2.1 Incinerator for oil residues (sludge)……. "

2 Amendments to the Supplement to the IOPP Certificate (Form B)

The existing paragraph 3.2.1 is replaced by the following:

"3.2.1 Incinerator for oil residues (sludge)……. "

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ANNEX 14

**STATEMENT BY THE DELEGATION OF LIBERIA
ON THE STOLT VALOR INCIDENT IN RESPONSE TO DOCUMENT MEPC 64/INF.30**

Liberia notes MEPC 64/INF.30 submitted by the observer intergovernmental Regional Organization for the Protection of the Marine Environment (ROPME) and the Marine Emergency Mutual Aid Centre (MEMAC), which provides their summary of the accident and response to the *Stolt Valor* explosion, fire and tragic loss of life of one seafarer that occurred in March 2012. The paper provides several observations and lessons learned as recorded by MEMAC, which unfortunately are misleading and are an incomplete account of events.

As the flag Administration of the *Stolt Valor,* Liberia believes it is important to provide additional details on the incident and the response for the record, in particular the lack of a Place of Refuge for ships in distress and in need of assistance.

The *Stolt Valor* is a 15,732 GT parcel tanker built in 2004. While on passage from Jubail, Saudi Arabia, to Sitra, Bahrain on 15 March 2012, the vessel suffered an explosion and fire, while the crew was undertaking a routine tank cleaning operation, approximately 50 nautical miles from Ras Abu Ali, Saudi Arabia. The vessel was carrying cargoes of Methyl Tertiary Butyl Ether ("MTBE") and Isobutyraldehyde ("IBAL") which had been loaded at Jubail. Tragically, one of the crew members lost his life. The remaining crew members were forced to abandon ship and were rescued by coalition forces. While the casualty investigation is not complete, from the documents received and statements of the Master and others, the explosion occurred as result of ignition of the flammable vapors; however, the source of ignition has not yet been determined, as the only seafarer in the vicinity at the time was fatally injured. There is no evidence of willful negligence or wrong doing on the part of the Master or any of the crew.

Within hours of the explosion, the owners of the *Stolt Valor* acted immediately and responsibly by engaging internationally reputed salvors, Smit, under a Lloyd's Open Form Contract and Smit immediately began to source firefighting craft and mobilize salvage equipment and experts to the site. Further, to assist Smit locally, the owners also entered into a Lloyd's Open Form with Saudi Aramco, which had tugs in the area of the stricken vessel.

Saudi Aramco's craft secured a towline to the *Stolt Valor* on 16 March 2012 and towed her away from traffic lanes and offshore installations in the area. Smit's vessels arrived and took over the tow of the vessel later that same day. Fire fighting activities commenced and Saudi Aramco vessels were maintained in order to assist.

On 21 March 2012 the Navy of one of the coastal States ordered, under threat of arrest, the salvage/firefighting team and the *Stolt Valor* to remain outside its exclusive economic zone. This required the salvage/firefighting team to move its flotilla north with the *Stolt Valor* in tow, all while continuing to combat the fire. The fire was eventually extinguished on 22 March 2012. No cargo was reported to be dispersing away from the *Stolt Valor* and, according to international fire experts, all cargo lost was consumed in the fire. No bunkers were released into the sea.

Once the fire was extinguished, attention focused on locating a safe haven in which to safely lighten the bunkers and remaining cargo. With the vessel heavily damaged midship, the owners were anxious to avoid exposure to extreme weather conditions for fear that the vessel might break in two resulting in pollution. The first round of applications for a place of

refuge was made on 21 March 2012 by salvors and Owners to States in the region. MEMAC's assistance was sought to forward the application documents. The government of Liberia also requested assistance from States in the region to identify a place of refuge. All requests for a place of refuge were declined and no additional support was offered. The Owners and their salvage team were left with no choice but to take all possible steps to save the vessel whilst offshore and avert any damage to the environment. The removal of the vessel's bunkers and other contaminants commenced on 24 March 2012. On 26 March 2012 the convoy was confronted by a coastal State gunboat, which demanded that the salvage flotilla responding to the *Stolt Valor* leave its EEZ or they would open fire. The convoy proceeded to an offshore anchorage in the middle of the Gulf, as directed by MEMAC. The operation to remove the bunkers was completed on 1 April 2012 with all fuel oils successfully removed without any pollution.

Following the removal of the bunkers, a second request for a place of refuge to conduct safe lightering of the cargo was submitted via MEMAC on 2 April 2012. These requests were also refused. Therefore, operations to remove the remaining cargo commenced while the *Stolt Valor* remained offshore in exposed waters. The removal of the remaining cargo, lubricants, paints and other environmental hazards was successfully completed, without incident or spillage, by 29 April 2012.

A third request for a place of refuge was submitted for authorization for the *Stolt Valor* to proceed to the Arab Shipbuilding and Repair Yard (ASRY) in Bahrain. On 4 May 2012, Owners and salvors submitted an initial passage plan to take the *Stolt Valor* to ASRY. Seven weeks later, after several meetings and additional requirements, the *Stolt Valor* was authorized to enter Bahrain's waters in preparation of entering ASRY. It should be noted that from the outset of this incident, the owners sought the assistance of the International Tanker Owners Pollution Federation (ITOPF), who are knowledgeable of the region, to coordinate with local authorities on spill contingency planning and equipment and produce environmental analyses, spill simulations and risk assessments as the incident and salvage unfolded in real time. Further, Oil Spill Response Limited (OSRL) was contracted to be on site with anti-pollution equipment as contingency in the event of a spill. No spillage occurred, due to extraordinary efforts of the salvors.

In closing Mr. Chairman, Liberia would like make the following points and recommendations:

It is beyond doubt that the decision to abandon ship was the correct decision, as there would certainly have been further loss of life from a subsequent larger explosion that occurred shortly after evacuation. There was no need for the crew to remain in Bahrain to assist with the salvage operation as the salvage experts were provided all relevant information required and the immediate need was to combat the fire.

The owner has cooperated fully with the Liberian Administration on its casualty investigation, including facilitating the availability of the Master, Chief Officer and other crew members for interviews.

The owner, with assistance of their P&I Club, took immediate and responsible actions following the incident, engaging local and international experts with knowledge of the region, salvage, firefighting and other response resources required to combat the fire, stabilize the damaged vessel and protect the environment. The owner and their experts are to be commended for the successful removal of the remaining cargo, bunkers, lubricants, paints and other environmental hazards without incident or spillage. This despite the fact the *Stolt Valor's* was in a fragile state and being forced to remain at sea, where seas of up to 6 meters where encountered and bow and stern moving independently, increasing the risk of her breaking in two.

Unfortunately, this incident demonstrates, yet again, the difficulty ship owners still face in finding a place of refuge for a stricken vessel that is in need of assistance. The removal of cargo, bunkers and other oils could have been completed much sooner, safer, with less risk to human safety and the environment, if done in sheltered waters of a place of refuge, rather than the exposed offshore waters of the Gulf. The owners ensured MEMAC was continually updated throughout this period in order to keep local governments informed of the vessels status in anticipation of a timely decision. However, the decision to permit the vessel into port came some 3.5 months after the fire was extinguished and some 1.5 months after all cargo, bunkers and other oils were removed. The reasons for this excessive delay are not clear and do not appear to be in keeping with IMO Assembly resolution A.949(23) – *Guidelines on places of refuge for ships in need of assistance*.

Given the importance that IMO placed on the issue of places of refuge back in 2000 and the apparent lack of implementation of A.949(23), Liberia recommends the Committee consider revisiting the issue with the intent to institutionalize the process to ensure timely cooperation and a clear decision-making by all interested parties.

Finally, we have been made aware that arrest orders have been initiated against the Master and Chief Engineer of *Stolt Valor* which allegedly relate to their failure to appear for interviews. However, the allegation is incorrect as the relevant crew did in fact submit to interviews in Bahrain undertaken separately by both the National Security Agency and Coastguard immediately after they came ashore in Bahrain. It was only after satisfactory conclusion of these interviews that the crew was permitted to leave Bahrain. As previously mentioned, interviews were arranged for the flag State and a similar arrangement for additional interviews was offered to MEMAC. Arrest orders in this case would therefore appear unwarranted.

Mr. Chairman, our apologies for the length of this intervention, however we believe it essential in view of the observations and lessons learned contained in MEPC 64/INF.30, that are critical of those responding to the accident.

We kindly ask that our full statement be included in the record of this Committee.

Thank you Sir.

***

ANNEX 15

RESOLUTION MEPC.226(64)

Adopted on 5 October 2012

**DESIGNATION OF THE SABA BANK
AS A PARTICULARLY SENSITIVE SEA AREA**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

BEING AWARE of the ecological, socio-economic and scientific attributes of the Saba Bank in the North-eastern Caribbean area of the Kingdom of the Netherlands, as well as its vulnerability to damage by international shipping activities and the steps taken by the Netherlands to address that vulnerability,

NOTING the *Revised guidelines for the identification and designation of particularly sensitive sea areas* adopted by resolution A.982(24) (PSSA Guidelines) and the Revised Guidance Document for Submission of PSSA Proposals to IMO set forth in MEPC.1/Circ.510,

HAVING CONSIDERED the proposal made by the Government of the Netherlands that the Saba Bank be designated as a Particularly Sensitive Sea Area,

HAVING AGREED that the criteria for the identification and designation of a Particularly Sensitive Sea Area provided in resolution A.982(24) are fulfilled for the Saba Bank,

HAVING NOTED that the Sub-Committee on Safety of Navigation, at its fifty-eighth session, approved the recommendation on the establishment of An Area To Be Avoided (ATBA) for ships 300 gross tonnage and above and a mandatory No Anchoring Area for all ships as Associated Protective Measures (APMs) for the Saba Bank as a Particularly Sensitive Sea Area aiming at improving the safety of navigation and the protection of the marine environment,

1. DESIGNATES the Saba Bank described in annex 1 as a Particularly Sensitive Sea Area, pending the final adoption by the Maritime Safety Committee of the associated protective measures for the PSSA as set out in annex 2 of document NAV 58/14;

2. INVITES Member Governments to recognize the ecological, socio-economic, and scientific attributes of the area, set forth in annex 2, as well as its vulnerability to damage by international shipping activities, as described in annex 3; and

3. FURTHER INVITES Member Governments to note the associated protective measures established to address the area's vulnerability, the details of which are contained in annex 4, which is expected to enter into force following final adoption on a date to be circulated by the Organization to all Member Government, and request ships flying their flag that they act in accordance with such measures.

* * *

ANNEX 1

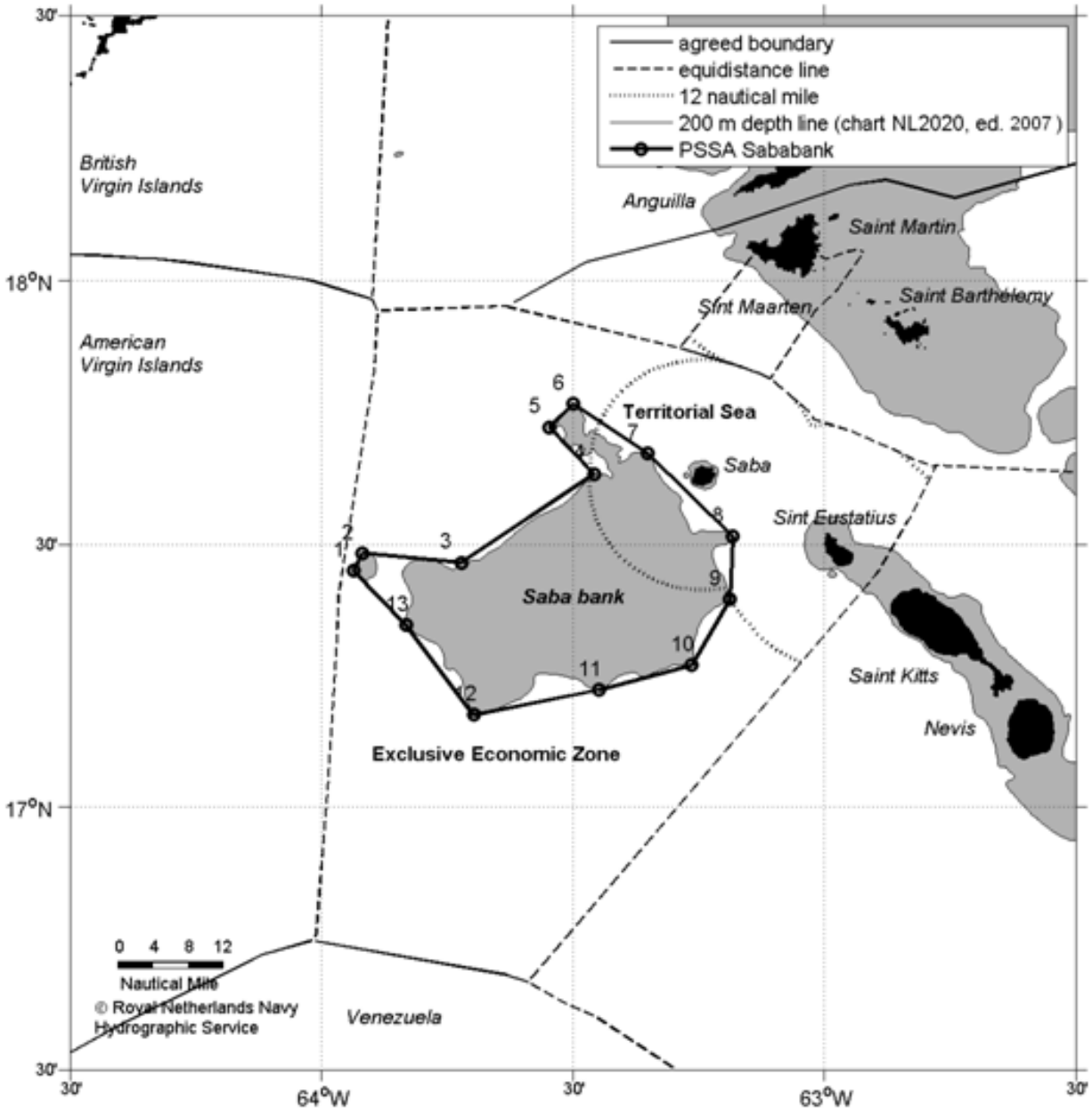
DESCRIPTION OF THE SABA BANK PSSA

In order to avoid the risk of pollution and damage to this unique, fragile and pristine coral reef ecosystem, and the risks to the artisanal fisheries of the area, mariners should exercise extreme care when navigating in the area bounded by a line connecting the following geographical position, which is designated as a Particularly Sensitive Sea Area:

1.	17° 27′.06 N	063° 56′.14 W
2.	17° 29′.00 N	063° 55′.09 W
3.	17° 27′.94 N	063° 43′.32 W
4.	17° 38′.03 N	063° 27′.41 W
5.	17° 43′.35 N	063° 32′.74 W
6.	17° 45′.98 N	063° 29′.98 W
7.	17° 40′.34 N	063° 21′.10 W
8.	17° 30′.88 N	063° 10′.92 W
9.	17° 23′.80 N	063° 11′.25 W
10.	17° 16′.27 N	063° 15′.85 W
11.	17° 13′.44 N	063° 26′.89 W
12.	17° 10′.55 N	063° 41′.81 W
13.	17° 20′.85 N	063° 49′.89 W

(Reference Chart: Netherlands Nautical Chart no. 2020, Edition November 2007
***Note*:** This chart is based on World Geodetic System 1984 (WGS 84))

CHARTLET


agreed boundary
equidistance line
12 nautical mile
200 m depth line (chart NL2020, ed. 2007)
PSSA Sababank
British Virgin Islands
American Virgin Islands
Anguilla
Saint Martin
Sint Maarten
Saint Barthelemy
Territorial Sea
Saba
Sint Eustatius
Saba bank
Saint Kitts
Nevis
Exclusive Economic Zone
Venezuela
1
2
3
4
5
6
7
8
9
10
11
12
13
0 4 8 12
Nautical Mile
© Royal Netherlands Navy
Hydrographic Service
18°N
17°N
64°W
63°W
30'

* * *

ANNEX 2

ECOLOGICAL, SOCIO-ECONOMIC, AND SCIENTIFIC ATTRIBUTES OF THE SABA BANK PSSA

Ecological criteria

1 Uniqueness or rarity

1.1 The reefs of the Saba Bank are far removed from land and as a consequence there is an absence of land-based influences such as elevated levels of sedimentation due to increased erosion, high nutrient concentrations caused by pollution from agricultural run-off and wastewater disposal, or sedimentation from coastal construction activities. Worldwide, reefs are in decline, from just such impacts originating from land. This unique position of the Saba Bank reefs, provide a potentially greater resilience to changes in the environmental conditions, such us climate change, and it is a relatively untouched centre for recruitment and recuperation for the coastal reefs in the region.

1.2 The coral reefs of the Saba Bank, characterized by high coral cover of around 70 per cent in some places, have been determined to be among the four healthiest of the Caribbean, based on the Atlantic and Gulf Rapid Reef Assessment (AGRRA) health index, which is a compilation of many variables, including coral cover, fish populations, presence of diseases, types and cover of algae on the reef, and ratio of living coral versus dead coral[1].

1.3 Because of its location and prevailing currents in the area, the Saba Bank is a source of larval recruitment for corals and coral reef associated organisms, including important fishery species such as conch (*Strombus gigas*), and lobster (*Panulirus argus*) for the entire region.

1.4 A two-week study, carried out in January 2006 by Conservation International, the former Netherlands Antilles government and the Smithsonian Institution's Museum of Natural History, to investigate the biodiversity of the Saba Bank, found that the Saba Bank has the largest diversity of algae in the Caribbean. A diverse algae community is a critical food source for the herbivores on the Bank and provides shelters and habitats for fish and other invertebrate species.

1.5 Further studies, conducted in 2007, found two new species of gorgonian corals, a deep and shallow water species. Since the gorgonians of the Caribbean are a well-known group of corals with only a limited number of species, the discovery of a new species in the shallowest parts of the Bank is very unique.

1.6 The Saba Bank is home to a number of species on the International Union for the Conservation of Nature (IUCN) Red List, such as the humpback whale, sperm whale, green turtle and the hawksbill turtle, yellow fin grouper, snowy grouper, Nassau grouper, queen triggerfish, yellow mouth grouper, bull shark, and tiger shark.

2 Critical habitat

2.1 The Saba Bank is a critical habitat for at least two species of sea turtles. Large areas covered in algae and areas rich in sponges provide foraging grounds for green sea turtles and

[1] (Kramer, P.A. (2003) Synthesis of coral reef health indicators for the western Atlantic: Results of the AGRRA program (1997-2000). Atoll Res. Bull.(496), 1-57).

hawksbill sea turtles respectively. Such feeding grounds are declining. Both of these species of turtles are listed on IUCN Red List of threatened species. The hawksbill is listed as critically endangered and the green sea turtle is listed as endangered. In addition the Saba Bank provides critical habitat for coral species, many fish and invertebrate species, and for whales and dolphins. There are currently over 360 species of fish that have been documented on the Saba Bank and this list continues to grow.

3 Dependency

3.1 The Saba Bank is formed and sustained by the growth of the corals and coral reefs on it. As such, these organisms provide habitat, food and shelter for all animals and plants living on the Bank. The high diversity of the area is maintained by the numerous feedback mechanisms characteristic for these kinds of ecosystems. As a self-sustaining ecosystem, it is highly productive and also forms an attractive feeding and nursery ground for many migratory species. The Saba Bank is the main nursery ground for fish species that are hatched in the area. The fishery on the Bank is dependent on these nursery ground facilities and derives considerable income from them. The Saba Bank is also a source of lobster and conch larvae for the whole region down-current of the Bank.

4 Representativeness

4.1 As a submerged atoll with highly developed reefs the Saba Bank is uniquely representative of coral reef growth processes in relatively deep water in the Caribbean, providing typical examples of deep reef structure and deep reef growth forms. The shallower parts of the Bank are representative of various high energy hard bottom habitats, while the deeper sandy areas provide calmer lagoon-like habitats.

5 Diversity

5.1 The reefs and other habitats of the Saba Bank have only recently been surveyed for species such as fish, gorgonians and invertebrates. Due to the vastness of the Bank these lists are far from complete. Nevertheless, during the preliminary coral surveys 38 hard coral species were found. Similarly, the Saba Bank is rich in gorgonians, sponges, and fish species. Discovery of new species on the Saba Bank are still made, as demonstrated by a 2006 research expedition which yielded over 200 fish species not previously known to exist in the area, and over 100 species of algae, many of which were previously unknown to science.

5.2 Renowned algae experts Mark and Diane Littler, consider the Saba Bank to have the highest diversity in the Caribbean with respect to marine algae. A 2007 research expedition also found two new species of soft coral. One of the new species was found in deep water (70 m), and the other was found to be common in shallow water (20 m). Since the gorgonians of the Caribbean are a well-known group of corals with only a limited number of species, the discovery of a new species in the shallowest parts of the Saba Bank was unexpected and indicative of the Bank's high diversity.

5.3 Further contributing to its diversity, the ecosystem of the Saba Bank contains a wide variety of habitats. For example, within the coral reefs of the Saba Bank, the percentage of coral cover varies widely, creating a series of interconnected but distinct types of coral reef habitats, or zones (e.g. fore reef, reef crest, back reef, patch reefs and lagoon). As a result of this zoning, the coral reefs of the Saba Bank contain a variety of environmental niches and resources that support a diverse array of species.

6 Productivity

6.1 As an actively growing atoll, the Saba Bank is quite productive for marine life. In many places, the corals form hills and ridges up to 20 feet high, growing fast enough to outpace destructive processes in this hurricane-prone region. The Saba Bank's productivity is also exemplified by its support of the Saba fisheries, a comparatively major economic sector which accounts up to 7 per cent of the island's GDP.

7 Spawning and breeding grounds

7.1 Spawning aggregations of at least three species of fish are known from the Saba Bank. These species are the red hind, the queen triggerfish as well as squirrelfish. There is a worldwide general recognition that such spawning aggregations must be afforded protection. The Island Government has closed a critical red hind spawning area to fishing during the months of December to February in order to protect this important aggregation.

8 Naturalness

8.1 The Saba Bank is relatively isolated from land-based sources that generally cause the degradation of coral reefs. The Bank is close to the small island of Saba and separated from other islands by deep water. Biological surveys so far all describe the pristine conditions of the coral reefs of the Saba Bank.

9 Integrity

9.1 The Saba Bank ecosystem contains a wide variety of interconnected habitats. The diversity of habitat types enables the survival and coexistence of high numbers of marine species.

10 Fragility

10.1 Coral reefs are highly complex and diverse marine ecosystems which are very sensitive to any alteration of the environmental conditions. Due to a combination of anthropogenic and natural causes Caribbean Reefs are in decline and many of them, in this area, show decades of decrease in coral cover. The Saba Bank is relatively free from land-based sources of pollution, overfishing, and sedimentation, however, due to its high level structural complexity and biodiversity, the Saba Bank's resilience to natural disturbances is low and this Bank could be seriously affected by the anchoring of merchant vessels, especially by tankers.

10.2 Coral reefs require a delicate balance across a range of environmental conditions in order to be healthy. The existence of a coral ecosystem may be threatened by changes to even one of those environmental conditions. Corals derive a substantial portion of their nutrition from symbiotic algae (*zooxanthellae*) within their tissues. Because algae require light for photosynthesis, clear and clean water conditions are necessary for growth and well-being. The introduction of sediments increases turbidity and retards growth rates. The introduction of pollutants can be toxic to numerous parts of the ecosystem. The isolation of the Saba Bank allows protection from invasive species, which can be transferred by ships. Non-native species can displace native species and seriously disrupt and imbalance the natural ecosystem.

10.3 The physical structure of the reef is provided by calcium carbonate, which forms the rock framework or reef "skeleton". This calcium carbonate is deposited at a rate of about one centimetre per year by the living coral animals (*polyps*). These polyps exist in a thin layer at the surface of the reef rock. The Saba Bank coral reef system has taken

thousands of years to build. If optimal conditions for regeneration exist, it would take substantial time (decades) for a damaged area of the reef to recover and fully return to its original condition.

10.4 The impact of activities like anchoring and the passage of merchant ships indisputably threatens the ecosystem of the Saba Bank. The anchors of merchant ships, and in particular the heavy anchor chains, destroy acres of coral reef as the ships swing on their anchors, waiting to load or unload at the large oil terminal of St. Eustatius only 25 miles east of the Saba Bank, or just waiting for their next voyage. Regeneration of such damage will take decades, even under good conditions. Moreover, shipping traffic brings potential destruction from groundings, collisions, and pollution from operational and accidental discharges. Secondary, and cumulative damage, may occur when dislocated coral fragments caused by anchoring are tossed against healthy coral by wave action, currents and violent storms. Based on information collected from 2007 till 2009, the average number of days a ship is anchored increased from 4.5 to 7.8 days.

10.5 The Saba Bank is also vulnerable to so-called ghost traps. Ghost traps are lobster or fish traps lost by fishermen. Merchant ships crossing the Saba Bank do not notice the little buoys marking the locations of the traps and run over them. The buoys are lost or destroyed in the process, and the traps become ghost traps. This has a serious impact on the local fish stocks.

11 Bio-geographic importance

11.1 The Saba Bank has been discovered to be an atoll only recently. Its richness in terms of biodiversity is only just emerging. It is by far the largest atoll in the Caribbean, being four times the size of the next largest atoll and, as such, a unique bio-geographic object in the Caribbean.

Social, cultural and economic criteria

12 Social or economic dependency

12.1 In 2000, a year-long survey of the Saban fishery concluded that the fishery on the Saba Bank is of relatively major social and economic importance to Saba. The fishery sector generates US$1.2 million annually, or about 7 per cent of the island's GDP, and employs 8 per cent of the economically active population. The main target species of the fishery is the lobster, which accounts for 90 per cent of the catches. A management plan for sustainable fishery on the Saba Bank is in preparation and will be implemented in 2011.

12.2 The lobster fishery (lobster traps) is completely dependent on the availability of suitable habitat on the Saba Bank, (i.e. coral reefs and associated habitats which require a healthy marine environment). The destruction of the coral reefs has a devastating impact on the people and the economy of the island of Saba.

12.3 Although as yet unrealized, the extensive, healthy coral reefs on the Saba Bank and the discovery of a wreck constitutes a potential for the development of dive tourism industry, which could help the economy of the island of Saba. Especially in view of the worldwide decline of coral reefs, and the fact that the Saba Bank reefs are among the healthiest of the region, the chances are considerable that this as yet untapped potential will be developed. Consequently the conservation of a healthy marine environment on the Saba Bank is of paramount importance.

13 Human dependency

13.1 The inhabitants of the island of Saba, as well as St. Eustatius, have been fishing in their small boats on the Saba Bank for generations, with written documentation going back as far as 1907.

Scientific and educational criteria

14 Research

14.1 As one of the few atolls in the Caribbean, and as an area with coral reefs that are still among the most untouched in the Caribbean, the Saba Bank is an important area for scientific research, although that potential is just beginning to be realized. In 2006, the Dutch research ship HMS **Snellius** conducted a detailed bathymetric study of a large part of the Bank. In cooperation with Conservation International, a very detailed bathymetric map of the Bank was compiled from the state of the art sonar data of the **Snellius**. This detailed information has been the basis for a six-month study to further investigate and classify the diverse habitat types which comprise the Saba Bank, and forms a very important resource for further research on the Bank.

14.2 This area is of high scientific interest and offers unparalleled opportunity for research. Given the fact that the Saba Bank has been relatively unexplored by scientists and is not impacted from pollution from the surrounding islands, it provides one of the few areas in the Caribbean where researchers can conduct large-scale comparisons between human-impacted marine ecosystems and unimpacted marine ecosystems.

14.3 As mentioned in paragraph 3.1.5, further evidence of the importance of this area for research was given in 2006 and again in 2007, when an international team of biologists made discoveries on the Saba Bank of two species of coral new to science and 20 new algae species that had never been described before. The researchers also recorded over 150 new fish species records for the Saba Bank, including some very rare species found only once or twice elsewhere in the Caribbean. These scientific discoveries suggest that much research remains to be done to fully understand and appreciate this complex ecosystem.

14.4 Ongoing research and monitoring of the marine ecosystems in the Saba Bank will continue to provide significant insights, not only for the Island of Saba but for the marine ecosystems around the Caribbean.

14.5 Saba Bank is one of the few marine regions on earth where monitoring and research activities can be conducted in the virtual absence of land-based human habitation and activities. It thus provides ideal baseline conditions with regard to biota and environmental characteristics because it did not have any impacts from land based sources and is thus in a natural or near-natural condition.

15 Baseline for Monitoring studies

15.1 In past years, some preliminary monitoring of the reefs of the Saba Bank took place. An Atlantic and Gulf Rapid Reef Assessment survey was completed in 1999, documenting coral cover and health, algal composition, and fish populations on three reef sites. In 2007, another AGRRA survey was completed to add to the data of the previous survey. The Saba Bank was classified as being one of the healthiest reefs in the Caribbean and, as such, forms an almost perfect baseline for comparison with other reefs in the Caribbean.

16 Education

16.1 Because baselines of human perception are bound to shift as more and more reefs become degraded, reefs like the ones found on the Saba Bank are an example of well-functioning and healthy reefs. Because the Saba Bank is in such a good condition it offers ample opportunity for education.

* * *

ANNEX 3

VULNERABILITY TO DAMAGE BY INTERNATIONAL SHIPPING ACTIVITIES

Vessel traffic characteristics

1 Operational factors

1.1 In addition to merchant shipping traffic, there is also a lot of traffic consisting of small artisanal fishing boats crossing the Saba Bank. In addition, some recreational traffic of sailing yachts is common in the area. Occasionally, live-aboard dive vessels operate in the area, and vessels of the Coastguard of the Netherlands in the Caribbean patrol this area. Currently there are no vessels or rigs conducting the exploration or development of oil, gas or minerals in this area.

2 Vessel Types

2.1 There is a wide variety of vessels operating in this area. The main bulk of traffic consists of tankers of various sizes coming from or going to the St. Eustatius Oil Terminal, 25 miles east of the Saba Bank. In addition, various dry cargo ships, as well as cruise ships, cross the Saba Bank. Smaller vessels include artisanal fishing boats and recreational yachts. Almost all of the merchant ships are trading on international voyages. Domestic traffic is limited to artisanal fishing, almost all less than 12 metres, and Coastguard vessels.

3 Traffic characteristics

3.1 Ship traffic is heavy in the area around the Saba Bank. Apart from the fishing boats, there are many cargo ships, tankers and cruise ships passing through the area. In 1995, St. Eustatius Oil Terminals doubled its capacity to 11 million barrels and the number of visiting ships was estimated to be at least 100 a month. The port is one of the busiest tanker ports in the region. As from February 2008, the capacity has been 14 million barrels per year. It is estimated that about 200 tankers and cargo ships pass over the Saba Bank annually. An extension of the terminal is foreseen in 2011.

3.2 Ships use the Saba Bank area mostly for passage only, but the fishermen on the Saba Bank report witnessing tank rinsing, oil spills, and the emptying of sewage tanks, and frequent sightings of anchoring on the Bank. All these activities have a severe impact on the environmental conditions of the Saba Bank, because they increase the intensity of traffic.

3.3 Some ships do not simply pass, but anchor on the Saba Bank, while waiting to load at Statia Terminals. Anchoring ships are both tankers and cargo ships with a draught of up to 12 m. Larger tankers avoid the Saba Bank because their draught when loaded is between 12 and 20 m, which is too deep for the shallow areas of the Bank. Tankers have been seen anchoring on the Bank for a few hours to many weeks. A six-month survey of the Saba Bank in 2007, recorded a total of 21 ships anchoring on the Bank for a total of 94 anchoring days, ranging from 1 to 17 days a ship (based on visual observation). This is an under estimation since only about half of the Saba Bank can be monitored visually from the island of Saba. As of December 2007, an Automatic Identification System (AIS) monitoring system was put in place to more accurately monitor ship movements and anchoring (coverage 50 per cent of Saba Bank).

4 Harmful substances carried

4.1 The majority of ships crossing the Saba Bank consists of tankers carrying crude oil on their way to or from the St. Eustatius Oil Terminal.

Natural factors

5 Hydrographical

5.1 Coral reef ridge – the more than 50 km long shallow ridge on the east and south-east sides of the Saba Bank constitutes a navigational hazard for ships with a draught more than 12 metres.

5.2 The water depth of the proposed PSSA varies from 12 m on its eastern and south-eastern edges where the bottom drops steeply to depths in excess of 500 metres, to 20-30 metres on its southern and south-western side where the bottom also falls steeply to great depths, to about 50 metres on the north-western side where the slope is more gradual.

5.3 The bottom topography of the Saba Bank includes everything from spectacular coral reefs to fine sand bottoms. Within this spectrum some of the more important bottom types are: highly diverse algae meadows, coarse rubble fields, hard limestone substrate with evidence of past "karst" formations, and carbonate sand bottoms of varying degrees of coarseness.

6 Meteorological

6.1 The Saba Bank is located in the tropics without clear wet or dry seasons. However, the Saba Bank is located in the Caribbean hurricane belt and during the hurricane season from June to November, the Bank is regularly exposed to a hurricane or a tropical storm. The area is within the trade wind zone with almost constant year-long eastern to north-eastern winds, except for the months of August to October when windless periods sometimes occur.

7 Oceanographic

7.1 The Saba Bank is situated in an area where surface ocean currents predominantly run east to west, although deviations both towards the north and to the south are known and even reversed currents are known to occur. It is unknown whether upwelling occurs along the eastern to south-eastern edges.

8 Other helpful information

8.1 Ship grounding and collisions on the Saba Bank did not occur yet, but could cause great damage to the Bank coral reefs. The grounding of large tankers or engine failure appears to be a genuine danger, because the prevailing winds and currents would carry the tanker rapidly from St. Eustatius towards the Saba Bank.

8.2 The heavy ship traffic on the Saba Bank also poses a danger to the small (average < 12 m length) artisanal fishing boats, which run the risk of being run over by large tankers. This risk has already caused the fishermen to avoid these traditional fishing grounds, causing a noticeable decrease of their catches.

8.3 Surveys carried out since 2007 show that anchoring on the Saba Bank has increased from an average of 4.5 days per ship till 7.8 days. The number of ships observed anchoring was 21, 20, and 24 respectively in 2007, 2008, and 2009. However, the surveys only cover about 40-60 per cent of the Bank. Most ships only anchor for a couple of days, but some may stay for as much as a month (see table 1).

Table 1: Anchoring and ship traffic on the Saba Bank in 2007, 2008, 2009 and 2010

YEAR	ANCHORING Ships	TOTAL Days	AVERAGE Day/ship	RANGE Day/ship	PASSING Ships
2007[2]	21	94	4.5	1-17	
2008[3]	20	60	3.0	1-11	54
2009[4]	24	187	7.8	1-33	29
2010[5]	20	68	3	1-14	

* * *

2 Monitoring was mostly visual and not continuously during the year; figures indicate the minimum.

3 On the basis of AIS covering 40-60 per cent of the Saba Bank.

4 On the basis of AIS covering 40-60 per cent of the Saba Bank.

5 On the basis of AIS covering 40-60 per cent of the Saba Bank.

ANNEX 4

DESCRIPTION OF THE AREA TO BE AVOIDED FOR SHIPS 300 GT AND ABOVE AND MANDATORY NO ANCHORING AREA FOR ALL SHIPS

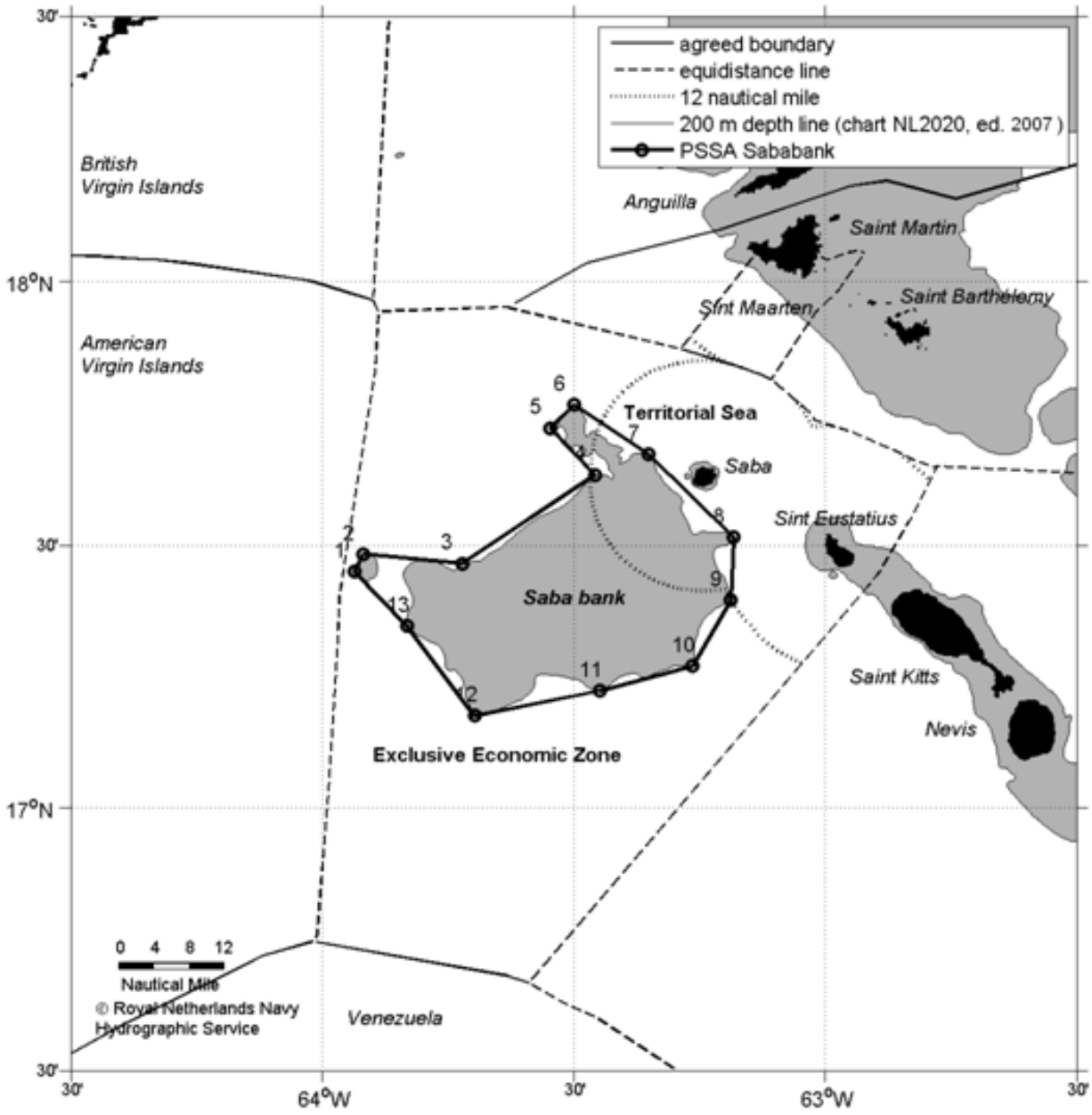
An area to be avoided by ships of 300 GT and above and a mandatory no anchoring area for all ships is established in the area designated as a Particularly Sensitive Sea Area and bounded by a line connecting the following geographical positions:

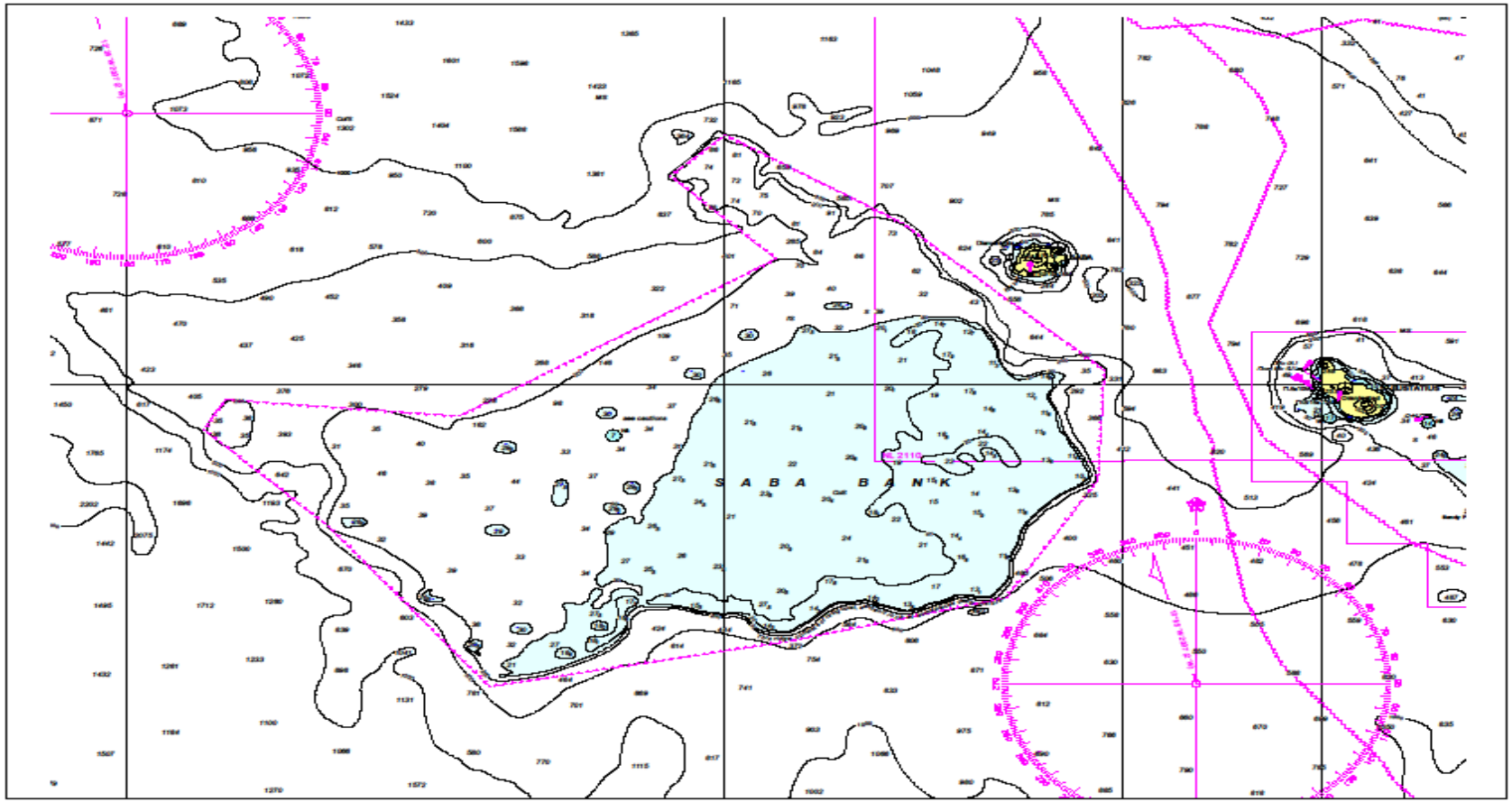
(Reference Chart: Netherlands 2020, Edition November 2007
***Note*:** This chart is based on World Geodetic System 1984 (WGS 84))

1.	17° 27′.06 N	063° 56′.14 W
2.	17° 29′.00 N	063° 55′.09 W
3.	17° 27′.94 N	063° 43′.32 W
4.	17° 38′.03 N	063° 27′.41 W
5.	17° 43′.35 N	063° 32′.74 W
6.	17° 45′.98 N	063° 29′.98 W
7.	17° 40′.34 N	063° 21′.10 W
8.	17° 30′.88 N	063° 10′.92 W
9.	17° 23′.80 N	063° 11′.25 W
10.	17° 16′.27 N	063° 15′.85 W
11.	17° 13′.44 N	063° 26′.89 W
12.	17° 10′.55 N	063° 41′.81 W
13.	17° 20′.85 N	063° 49′.89 W

CHARTLET

CHARTLETS OF THE MANDATORY NO ANCHORING AREA AND AREA TO BE AVOIDED





Map is an extract from:
Netherlands Nautical Chart no. 2020, Edition November 2007
Scale: 1:300,000
This chart is based on World Geodetic System 1984 (WGS 84)
Royal Netherlands Navy Hydrographic Service

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ANNEX 16

DRAFT AMENDMENTS TO THE CONDITION ASSESSMENT SCHEME (CAS) (RESOLUTION MEPC.94(46), AS AMENDED)

1 After paragraph 1.5, the following new paragraph is inserted:

"1.6 The Assembly, at its twenty-seventh session, adopted the *International Code on the enhanced programme of inspections during surveys of bulk carriers and oil tankers, 2011* (2011 ESP Code) (resolution A.1049(27)) and the Maritime Safety Committee, at its ninetieth session, adopted, by resolution MSC.[...(90)], amendments to SOLAS regulation XI-1/2, replacing "resolution A.744(18)" with "the 2011 ESP Code" and thereby making the Code mandatory. Therefore, the references to "resolution A.744(18)" in the CAS are replaced by references to "the 2011 ESP Code (resolution A.1049(27))"."

2 In paragraphs 3.10, 6.2.1.3, 6.2.2.9, 7.3.1, 7.3.4, 7.3.7 and 8, the reference to "resolution A.744(18), as amended" is replaced by a reference to "the 2011 ESP Code".

3 In appendix 2, in the section "Inspections by the Company", the reference to "resolution A.744(18), as amended" is replaced by a reference to "the 2011 ESP Code".

4 In appendix 3, in section 8, the reference to "resolution A.744(18), as amended" is replaced by a reference to "the 2011 ESP Code".

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ANNEX 17

DRAFT ASSEMBLY RESOLUTION

REVISED GUIDELINES ON THE IMPLEMENTATION OF THE INTERNATIONAL SAFETY MANAGEMENT CODE BY ADMINISTRATIONS (ISM CODE)

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.741(18) by which it adopted the *International Management Code for the Safe Operation of Ships and for Pollution Prevention* (International Safety Management (ISM) Code),

RECALLING FURTHER resolution A.788(19) by which it adopted the *Guidelines on implementation of the International Safety Management Code by Administrations (ISM Code)*,

NOTING that the ISM Code became mandatory, under the provisions of chapter IX of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, for Companies operating certain types of ships, on 1 July 1998; and for Companies operating other cargo ships and mobile offshore drilling units propelled by mechanical means of 500 gross tonnage and upwards, on 1 July 2002,

NOTING ALSO resolution A.1022(26) by which it adopted the *Guidelines on implementation of the International Safety Management (ISM) Code by Administrations*,

NOTING FURTHER that the Maritime Safety Committee, at its [ninety-second session], adopted, by resolution MSC.[…](92), amendments to the ISM Code,

RECOGNIZING that an Administration, in establishing that safety standards are being maintained, has a responsibility to ensure that Documents of Compliance and Safety Management Certificates have been issued in accordance with the ISM Code taking into account the aforementioned Guidelines,

RECOGNIZING ALSO that there may be a need for Administrations to enter into agreements in respect of the issue of certificates by other Administrations in compliance with chapter IX of the 1974 SOLAS Convention and in accordance with resolution A.741(18),

RECOGNIZING FURTHER the need for uniform implementation of the ISM Code,

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee, at its ninety-first session, and the Marine Environment Protection Committee, at its sixty-fourth session,

1. ADOPTS the *Guidelines on implementation of the International Safety Management Code by Administrations (ISM Code)*, set out in the annex to the present resolution;

2. URGES Governments, when implementing the ISM Code, to adhere to the Guidelines;

3. REQUESTS Governments to inform the Organization of any difficulties they may experience when using the Guidelines;

4. AUTHORIZES the Maritime Safety Committee and the Marine Environment Protection Committee to keep the annexed Guidelines under review and to amend them as necessary;

5. REVOKES resolution A.1022(26) with effect from [1July 2014].

REVISED GUIDELINES ON THE IMPLEMENTATION OF THE INTERNATIONAL SAFETY MANAGEMENT CODE BY ADMINISTRATIONS (ISM CODE)

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INTRODUCTION

The ISM Code

The *International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code)* was adopted by the Organization by resolution A.741(18) and became mandatory by virtue of the entry into force on 1 July 1998 of the SOLAS chapter IX on Management for the Safe Operation of Ships. The ISM Code provides an international standard for the safe management and operation of ships and for pollution prevention.

The Maritime Safety Committee, at its [ninety-second session [.. June 2013], adopted amendments to sections 3, 6, 12, 14, and footnotes of the ISM Code by resolution MSC.[…(92)]. As a result it was necessary to revise the *Guidelines on the implementation of the international safety management (ISM) Code by Administrations* (resolution A.1022(26)), which is superseded by the Revised Guidelines.

The ISM Code requires that Companies establish safety objectives as described in section 1.2 (Objectives) of the ISM Code, and in addition that the Companies develop, implement and maintain a safety management system which includes functional requirements as listed in section 1.4 (Functional requirements for a safety management system) of the ISM Code.

The application of the ISM Code should support and encourage the development of a safety culture in shipping. Success factors for the development of a culture that promotes safety and environmental protection are, inter alia, commitment, values, beliefs and clarity of the Safety Management System.

Mandatory application of the ISM Code

The appropriate organization of management, ashore and on board, is needed to ensure adequate standards of safety and pollution prevention. A systematic approach to management by those responsible for management of ships is therefore required.

The objectives of the mandatory application of the ISM Code are to ensure:

.1 compliance with mandatory rules and regulations related to the safe operation of ships and protection of the environment; and

.2 the effective implementation and enforcement thereof by Administrations.

Effective enforcement by Administrations must include verification that the safety management system complies with the requirements as stipulated in the ISM Code, as well as verification of compliance with mandatory rules and regulations.

The mandatory application of the ISM Code should ensure, support and encourage the taking into account of applicable codes, guidelines and standards recommended by the Organization, Administrations, classification societies and maritime industry organizations.

Verification and certification responsibilities

The Administration is responsible for verifying compliance with the requirements of the ISM Code and for issuing Documents of Compliance to Companies and Safety Management Certificates to ships.

The *Guidelines for the authorization of organizations acting on behalf of the Administration* (resolution A.739(18)) and the *Specifications on the survey and certification functions of recognized organizations acting on behalf of the Administration* (resolution A.789(19)), which have been made mandatory by virtue of SOLAS regulation XI/1, and the *Guidelines to assist flag States in the implementation of IMO instruments* (resolution A.847(20)), are applicable when Administrations authorize organizations to issue Documents of Compliance and Safety Management Certificates on their behalf.

1 SCOPE AND APPLICATION

1.1 Definitions

The terms used in these Revised Guidelines have the same meaning as those given in the ISM Code.

1.2 Scope and application

1.2.1 These Revised Guidelines establish basic principles for:

.1 verifying that the safety management system of a Company responsible for the operation of ships, or the safety management system for the ship or ships controlled by the Company, complies with the ISM Code;

.2 carrying out the interim, initial, annual and renewal verification of the Document of Compliance and for the interim, initial, intermediate and renewal verification(s) of the Safety Management Certificate and the issuance/endorsement of corresponding documents; and

.3 the scope of the Additional Verification.

2 VERIFYING COMPLIANCE WITH THE ISM CODE

2.1 General

2.1.1 To comply with the requirements of the ISM Code, Companies should develop, implement and maintain a documented safety management system to ensure that the safety and environmental protection policy of the Company is implemented. The Company policy should include the objectives defined by the ISM Code.

2.1.2 Administrations should verify compliance with the requirements of the ISM Code by determining:

.1 the conformity of the Company's safety management system with the requirements of the ISM Code; and

.2 that the safety management system ensures that the objectives defined in paragraph 1.2.3 of the ISM Code are met.

2.1.3 Determining the conformity or non-conformity of safety management system elements with the requirements specified by the ISM Code may demand that criteria for assessment be developed. Administrations are recommended to limit the development of criteria in the form of prescriptive management system solutions. Criteria for assessment in the form of prescriptive requirements may have the effect that safety management in shipping results in Companies implementing solutions prepared by others, and it may then

be difficult for a Company to develop the solutions which best suit that particular Company, operation or ship. Therefore, particular operations should be ship specific and fully reflected in manuals, procedures and instructions.

2.1.4 Therefore, Administrations are recommended to ensure that these assessments are based on determining the effectiveness of the safety management system in meeting specified objectives, rather than conformity with detailed requirements in addition to those contained in the ISM Code, so as to reduce the need for developing criteria to facilitate assessment of the Companies' compliance with the Code.

2.2 The ability of the safety management system to meet general safety management objectives

The ISM Code identifies general safety management objectives in section 1.2.2. The verification should support and encourage Companies in achieving these objectives, which provide clear guidance to Companies for the development of safety management system elements in compliance with the ISM Code. Since, however, the ability of the safety management system to achieve these objectives cannot be determined beyond whether the safety management system complies with the requirements of the ISM Code, they should not form the basis for establishing detailed interpretations to be used for determining conformity or non-conformity with the requirements of the ISM Code.

2.3 The ability of the safety management system to meet specific requirements of safety and pollution prevention

2.3.1 The main criterion which should govern the development of interpretations needed for assessing compliance with the requirements of the ISM Code should be the ability of the safety management system to meet the specific requirements defined by the ISM Code in terms of specific standards of safety and pollution prevention.

The specific standards of safety and protection of the environment are specified in section 1.2.3 of the ISM Code.

2.3.2 All records having the potential to facilitate verification of compliance with the ISM Code should be open to scrutiny during an examination, these may include records from delegated SMS tasks. For this purpose, the Administration should ensure that the Company provides auditors with statutory and classification records relevant to the actions taken by the Company to ensure that compliance with mandatory rules and regulations is maintained. In this regard the records may be examined to substantiate their authenticity and veracity.

2.3.3 Some mandatory requirements may not be subject to statutory or classification surveys, such as:

.1 maintaining the condition of ship and equipment between surveys; and

.2 certain operational requirements.

Specific arrangements may be required to ensure compliance with the ISM Code and to provide for the objective evidence needed for verification in these cases, such as:

.1 documented procedures and instructions;

.2 documentation of the verification carried out by senior officers of day-to-day operations when relevant to ensure compliance; and

.3 relevant records of the ships being operated by the Company, e.g. flag State, port State controls, class and accident reports.

2.3.4 The verification of compliance with mandatory rules and regulations, which is part of the ISM Code certification, neither duplicates nor substitutes surveys for other maritime certificates. The verification of compliance with the ISM Code does not relieve the Company, the master or any other entity or person involved in the management or operation of the ship of their responsibilities.

2.3.5 Administrations should ensure that the Company has:

.1 taken into account the recommendations, as referred to in paragraph 1.2.3.2 of the ISM Code, when establishing and maintaining the safety management system; and

.2 developed procedures to ensure that these recommendations are implemented ashore and on board.

3 THE CERTIFICATION AND VERIFICATION PROCESS

3.1 Certification and verification activities

3.1.1 The certification process relevant to a Document of Compliance for a Company and a Safety Management Certificate to a ship will normally involve the following steps:

.1 interim verification;

.2 initial verification;

.3 annual or intermediate verification;

.4 renewal verification; and

.5 additional verification.

These verifications are carried out at the request of the Company to the Administration, or to the organization recognized by the Administration to perform certification functions under the ISM Code, or at the request of the Administration by another Contracting Government to the Convention. The verifications will include an audit of the safety management system.

3.2 Interim verification

Interim certification may be issued under certain conditions as specified by the Code and should facilitate the implementation of a safety management system.

3.2.1 The Company should apply for interim certification to the Administration.

3.2.2 The process of interim Document of Compliance verification of the management system undertaken by the Administration would require an assessment at the Company's offices in accordance with paragraph 14.1 of the Code.

3.2.3 On satisfactory completion of the assessment of the shoreside safety management system, arrangements/planning may commence for the assessment of applicable Company's ships.

3.2.4 The process of interim verification of the ship should be undertaken by the Administration to ensure that the ship is provided with a safety management system, in accordance with paragraph 14.4 of the Code.

3.2.5 On satisfactory completion of the interim verification, an Interim Document of Compliance will be issued to the Company; copies should be made available by the Company to every shoreside premises and each applicable ship in the Company's fleet. As each ship is assessed and issued with an Interim Safety Management Certificate, a copy of it should also be forwarded to the Company's head office.

3.3 Initial verification

3.3.1 The Company should apply for ISM Code certification to the Administration.

3.3.2 An assessment of the shoreside management system undertaken by the Administration would necessitate assessment of the offices where such management is carried out and possibly of other locations which may include delegated SMS tasks, depending on the Company's organization and the functions at the various locations.

3.3.3 On satisfactory completion of the assessment of the shoreside safety management system, arrangements/planning may commence for the assessment of the Company's ships.

3.3.4 On satisfactory completion of the assessment, a Document of Compliance will be issued to the Company, copies of which should be made available to each shoreside premises and each ship in the Company's fleet. As each ship is assessed and issued with a Safety Management Certificate, a copy of it should also be forwarded to the Company's head office.

3.3.5 In cases where certificates are issued by a recognized organization, copies of all certificates should also be sent to the Administration.

3.3.6 The safety management audit for the Company and for a ship will involve the same basic steps. The purpose is to verify that a Company or a ship complies with the requirements of the ISM Code. The audits include:

.1 the conformity of the Company's safety management system with the requirements of the ISM Code, including objective evidence demonstrating that the Company's safety management system has been in operation for at least three months and that a safety management system has been in operation on board at least one ship of each type operated by the Company for at least three months; and

.2 that the safety management system ensures that the objectives defined in paragraph 1.2.3 of the ISM Code are met. This includes verification that the Document of Compliance for the Company responsible for the operation of the ship is applicable to that particular type of ship, and assessment of the shipboard safety management system to verify that it complies with the requirements of the ISM Code, and that it is implemented. Objective evidence demonstrating that the Company's safety management system has been functioning effectively for at least three months on board the ship and ashore should be available, including, inter alia, records from the internal audit performed by the Company.

3.4 Annual verification of Document of Compliance

3.4.1 Annual safety management audits are to be carried out to maintain the validity of the Document of Compliance, and should include examining and verifying the correctness of the statutory and classification records presented for at least one ship of each type to which the Document of Compliance applies. The purpose of these audits is to verify the effective functioning of the safety management system, and that any modifications made the Safety Management System comply with the requirements of the ISM Code.

3.4.2 Annual verification is to be carried out within three months before and after each anniversary date of the Document of Compliance.

3.4.3 Where the Company has more than one shoreside premises and/or delegates SMS tasks, the annual assessments should endeavour to ensure that all sites are assessed during the period of validity of the Document of Compliance.

3.4.4 During the annual verification, Administrations should verify if the Company is operating all ship types on the DOC. Appropriate action should be taken if the Company has stopped operating a particular ship type.

3.5 Intermediate verification of Safety Management Certificates

3.5.1 Intermediate safety management audits should be carried out to maintain the validity of the Safety Management Certificate. The purpose of these audits is to verify the effective functioning of the safety management system and that any modifications made to the safety management system comply with the requirements of the ISM Code. In certain cases, particularly during the initial period of operation under the safety management system, the Administration may find it necessary to increase the frequency of the intermediate verification. Additionally, the nature of non-conformities may also provide a basis for increasing the frequency of intermediate verifications.

3.5.2 If only one intermediate verification is to be carried out, it should take place between the second and third anniversary date of the issue of the Safety Management Certificate.

3.6 Renewal verification

Renewal verifications are to be performed before the validity of the Document of Compliance or the Safety Management Certificate expires. The renewal verification will address all the elements of the safety management system and the activities to which the requirements of the ISM Code apply. Renewal verification may be carried out from three months before the date of expiry of the Document of Compliance or the Safety Management Certificate, and should be completed before their date of expiry.

3.7 Additional verification

3.7.1 The Administration may, where there are clear grounds, require an additional verification to check if the safety management system still functions effectively. Additional verifications may be carried out following situations beyond normal procedures. Examples of such situations include port state control detentions, reactivation after the interruption of the operations due to a period out of service or to verify that effective corrective actions have been taken and/or properly implemented additional verifications may affect the shore-based organization and/or the shipboard management system. The Administration should determine the scope and depth of the verification, which may vary from case to case. The additional verifications should be completed within the time period agreed taking into

account guidelines developed by the Organization. The Administration should follow-up on the results of the verification and take appropriate measures, as necessary.

3.7.2 On satisfactory completion of the shipboard assessment, the Safety Management Certificate should be endorsed for additional verification.

3.8 Safety management audits

The procedure for safety management audits outlined in the following paragraphs includes all steps relevant for initial verification. Safety management audits for the interim, annual, intermediate, additional and renewal verification should be based on the same principles even if their scope may be different.

3.9 Application for audit

3.9.1 The Company should submit a request for audit to the Administration or to the organization recognized by the Administration for issuing a Document of Compliance or a Safety Management Certificate on behalf of the Administration.

3.9.2 The Administration or the recognized organization should then nominate the lead auditor and, if relevant, the audit team.

3.10 Preliminary review (Document review)

As a basis for planning the audit, the auditor should review the safety management manual to determine the adequacy of the safety management system in meeting the requirements of the ISM Code. If this review reveals that the system is not adequate, the audit will have to be delayed until the Company undertakes corrective action.

3.11 Preparing the audit

3.11.1 The auditor should review the relevant safety performance records of the Company, and take them into consideration when preparing the audit plan, for example flag State, port State controls, class and accident reports.

3.11.2 The nominated lead auditor should liaise with the Company and produce an audit plan.

3.11.3 The auditor should provide the working documents which are to govern the execution of the audit to facilitate the assessments, investigations and examinations in accordance with the standard procedures, instructions and forms which have been established to ensure consistent auditing practices.

3.11.4 The audit team should be able to communicate effectively with auditees.

3.12 Executing the audit

3.12.1 The audit should start with an opening meeting in order to introduce the audit team to the Company's senior management, summarize the methods for conducting the audit, confirm that all agreed facilities are available, confirm time and date for a closing meeting and clarify possible unclear details relevant to the audit.

3.12.2 The audit team should assess the safety management system on the basis of the documentation presented by the Company, and objective evidence as to its effective implementation.

3.12.3 The objective evidence should be collected through interviews and examination of documents. Observation of activities and conditions may also be included when necessary to determine the effectiveness of the safety management system in meeting the specific standards of safety and protection of the environment required by the ISM Code.

3.12.4 Audit findings should be documented. After activities have been audited, the audit team should review the objective evidence collected. This should then be used to determine what is to be reported as major non-conformities, non-conformities or observations, and should be reported in terms of the general and specific provisions of the ISM Code.

3.12.5 At the end of the audit, prior to preparing the audit report, the audit team should hold a meeting with the senior management of the Company and those responsible for the functions concerned. The purpose is to present the observations in such a way as to ensure that the results of the audit are clearly understood.

3.13 Audit report

3.13.1 The audit report should be prepared under the direction of the lead auditor, who is responsible for its accuracy and completeness.

3.13.2 The audit report should include the audit plan, identification of audit team members, dates and identification of the Company, observations on any non-conformities and observations on the effectiveness of the safety management system in meeting the specified objectives.

3.13.3 The Company should receive a copy of the audit report. The Company should be advised to provide a copy of the shipboard audit reports to the ship.

3.14 Corrective action follow-up

3.14.1 The Company is responsible for determining and initiating the corrective action needed to correct a non-conformity or to correct the cause of the non-conformity. Failure to correct non-conformities with specific requirements of the ISM Code may affect the validity of the Document of Compliance and related Safety Management Certificates.

3.14.2 Corrective actions and possible subsequent audits should be completed within the time period agreed. For corrective actions this should not normally exceed three months. The Company should apply for the follow-up audits as agreed.

3.14.3 Failure to take adequate corrective actions, in compliance with the requirements of the ISM Code, including measures to prevent recurrence, may be considered as a major non-conformity.

3.15 Company responsibilities pertaining to safety management audits

3.15.1 The verification of compliance with the requirements of the ISM Code does not relieve the Company, management, those undertaking delegated SMS tasks, officers or seafarers of their obligations as to compliance with national and international legislation related to safety and protection of the environment.

3.15.2 The Company is responsible for:

.1 informing relevant employees and those undertaking delegated SMS tasks about the objectives and scope of the ISM Code certification;

.2 appointing responsible members of staff to accompany members of the team performing the certification;

.3 providing the resources needed by those performing the certification to ensure an effective and efficient verification process;

.4 providing access and evidential material as requested by those performing the certification; and

.5 cooperating with the verification team to permit the certification objectives to be achieved.

3.15.3 Where major non-conformities are identified, Administrations and recognized organizations (ROs) should comply with the procedures stated in MSC/Circ.1059-MEPC/Circ.401.

3.16 Responsibilities of the organization performing the ISM Code certification

The organization performing the ISM Code certification is responsible for ensuring that the verification and certification process is performed according to the ISM Code and these Guidelines. This includes management control of all aspects of the certification according to the appendix to these Guidelines.

3.17 Responsibilities of the verification team

3.17.1 Whether the verifications involved with certification are performed by a team or not, one person should be in charge of the verification. The leader should be given the authority to make final decisions regarding the conduct of the verification and any observations. His responsibilities should include:

.1 preparation of a plan for the verification; and

.2 submission of the report of the verification.

3.17.2 Personnel participating in the verification are responsible for complying with the requirements governing the verification, ensuring confidentiality of documents pertaining to the certification and treating privileged information with discretion.

Appendix

STANDARDS ON ISM CODE CERTIFICATION ARRANGEMENTS

1 INTRODUCTION

The audit team involved with ISM Code certification, and the organization under which it may be managed, should comply with the specific requirements stated in this annex.

2 STANDARD OF MANAGEMENT

2.1 Organizations managing verification of compliance with the ISM Code should have, in their own organization, competence in relation to:

.1 ensuring compliance with the rules and regulations, including certification of seafarers, for the ships operated by the Company;

.2 approval, survey and certification activities;

.3 the terms of reference that must be taken into account under the safety management system as required by the ISM Code; and

.4 practical experience of ship operation.

2.2 The Convention requires that organizations recognized by Administrations for issuing a Document of Compliance and a Safety Management Certificate at their request should comply with resolutions A.739(18) − *Guidelines for the authorization of organizations acting on behalf of the Administration* and A.789(19) − *Specifications on the survey and certification functions of recognized organizations acting on behalf of the Administration*.

2.3 Any organization performing verification of compliance with the provisions of the ISM Code should ensure that there exists independence between the personnel providing consultancy services and those involved in the certification procedure.

3 STANDARDS OF COMPETENCE

3.1 ISM Code certification scheme management

Management of ISM Code certification schemes should be carried out by those who have practical knowledge of ISM Code certification procedures and practices.

3.2 Basic competence for performing verification

3.2.1 Personnel who are to participate in the verification of compliance with the requirements of the ISM Code should have a minimum of formal education comprising the following:

.1 qualifications from a tertiary institution recognized by the Administration or by the recognized organization within a relevant field of engineering or physical science (minimum two years programme); or

.2 qualifications from a marine or nautical institution and relevant seagoing experience as a certified ship officer.

3.2.2 They should have undergone training to ensure adequate competence and skills for performing verification of compliance with the requirements of the ISM Code, particularly with regard to:

.1 knowledge and understanding of the ISM Code;

.2 mandatory rules and regulations;

.3 the terms of reference which the ISM Code requires that Companies should take into account;

.4 assessment techniques of examining, questioning, evaluating and reporting;

.5 technical or operational aspects of safety management;

.6 basic knowledge of shipping and shipboard operations; and

.7 participation in at least one marine-related management system audit.

3.2.3 Such competence should be demonstrated through written or oral examinations, or other acceptable means.

3.3 Competence for initial verification and renewal verification

3.3.1 In order to assess fully whether the Company or the ship complies with the requirements of the ISM Code, in addition to the basic competence stated under 3.2 above, personnel who are to perform initial verifications or renewal verifications for a Document of Compliance or a Safety Management Certificate must possess the competence to:

.1 determine whether the safety management system elements conform or do not conform with the requirements of the ISM Code;

.2 determine the effectiveness of the Company's safety management system, or that of the ship, to ensure compliance with rules and regulations as evidenced by the statutory and classification survey records;

.3 assess the effectiveness of the safety management system in ensuring compliance with other rules and regulations which are not covered by statutory and classification surveys and enabling verification of compliance with these rules and regulations; and

.4 assess whether the safe practices recommended by the Organization, Administrations, classification societies and maritime industry organizations have been taken into account.

3.3.2 This competence can be accomplished by teams which together possess the total competence required.

3.3.3 Personnel who are to be in charge of initial verification or renewal verification of compliance with the requirements of the ISM Code should have at least five years' experience in areas relevant to the technical or operational aspects of safety management, and should have participated in at least three initial verifications or renewal verifications. Participation in verification of compliance with other management standards may be considered as equivalent to participation in verification of compliance with the ISM Code.

3.4 Competence for annual, intermediate and interim verification

Personnel who are to perform annual, intermediate and interim verifications should satisfy basic requirements for personnel participating in verifications and should have participated in a minimum of two annual, renewal or initial verifications. They should have received special instructions needed to ensure that they possess the competence required to determine the effectiveness of the Company's safety management system.

4 QUALIFICATION ARRANGEMENTS

Organizations performing ISM Code certification should have implemented a documented system for qualification and continuous updating of the knowledge and competence of personnel who are to perform verification of compliance with the ISM Code. This system should comprise theoretical training courses covering all the competence requirements and the appropriate procedures connected to the certification process, as well as practical tutored training, and it should provide documented evidence of satisfactory completion of the training.

5 CERTIFICATION PROCEDURES AND INSTRUCTIONS

Organizations performing ISM Code certification should have implemented a documented system to ensure that the certification process is performed in accordance with this standard. This system should, inter alia, include procedures and instructions for the following:

.1 contract agreements with Companies;

.2 planning, scheduling and performing verification;

.3 reporting results from verification;

.4 issuance of Documents of Compliance, Safety Management Certificates and Interim Documents of Compliance and Safety Management Certificates; and

.5 corrective action and follow-up of verifications, including actions to be taken in cases of major non-conformity.

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ANNEX 18

DRAFT ASSEMBLY RESOLUTION

REVISED GUIDELINES FOR THE STRUCTURE OF AN INTEGRATED SYSTEM OF CONTINGENCY PLANNING FOR SHIPBOARD EMERGENCIES

THE ASSEMBLY

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO that the 1994 International Conference of Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, adopted amendments to that Convention introducing, inter alia, a new chapter IX on Management for the Safe Operation of Ships, which makes compliance with the International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code) mandatory,

BEING AWARE that shipboard emergency plans addressing different categories of emergencies are required under the provisions of the 1974 SOLAS Convention, as amended, and the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended,

BEING CONCERNED that the presence on board ships of different and non-harmonized emergency plans may be counter-productive in case of an emergency,

RECOGNIZING that many ships already make use of comprehensive and effective emergency plans, such as the Shipboard Oil Pollution Emergency Plan (SOPEP),

CONSCIOUS of the need that human element aspects are borne in mind when rules and recommendations affecting shipboard operations are considered for adoption,

WISHING to assist shipowners, ship operators and other parties concerned in, where this has not yet been done, transposing the provisions regulating emergency plans into a coherent contingency regime,

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee at its ninety-first session and by the Marine Environment Protection Committee at its sixty-fourth session,

1. ADOPTS the Revised Guidelines for a Structure of an Integrated System of Contingency Planning for Shipboard Emergencies, set out in the annex to the present resolution;

2. INVITES Governments, in the interests of uniformity, to accept the aforementioned structure as being in conformity with the provisions for the development of the shipboard emergency plans required by various instruments adopted by the Organization;

3. INVITES ALSO Governments to refer to these Guidelines when preparing appropriate national legislation;

4. REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee to keep the Guidelines under review and amend them as necessary in the light of experience gained;

5. REVOKES resolution A.852(20) with effect from [1 July 2014].

* * *

ANNEX

AMENDMENTS TO THE GUIDELINES FOR THE STRUCTURE OF AN INTEGRATED SYSTEM OF CONTINGENCY PLANNING FOR SHIPBOARD EMERGENCIES (RESOLUTION A.[….(28)]

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PREFACE

These Guidelines, prepared by the Maritime Safety Committee (MSC) of the International Maritime Organization (IMO), contain guidance to assist in the preparation of an integrated system of contingency planning for shipboard emergencies. It is intended to be used for the preparation and use of a module structure of an integrated system of shipboard emergency plans.

The high number of non-harmonized shipboard contingency plans justifies the development of an integrated system and the harmonization of the structure of contingency plans.

Shipboard emergency preparedness is required under paragraphs 1.2.2.2 and 8 of the ISM Code, as amended, referred to in chapter IX of the SOLAS Convention, as amended, under chapter III, regulation 24-4 of the SOLAS Convention, as adopted at the SOLAS Conference November 1995, and under MARPOL 73/78, Annex I, regulation 26.

To implement the SOLAS and MARPOL regulations, there must be shipboard procedures and instructions. These Guidelines provide a framework for formulating procedures for the effective response to emergency situations identified by the company and shipboard personnel.

In this context, the main objectives of these Guidelines are:

- to assist companies in translating the requirements of the regulations into action by making use of the structure of the integrated system;

- to integrate relevant shipboard emergency situations into such a system;

- to assist in the development of harmonized contingency plans which will enhance their acceptance by shipboard personnel and their proper use in an emergency situation;

- to encourage Governments, in the interests of uniformity, to accept the structure of the integrated system as being in conformity with the provisions for development of shipboard contingency plans as required by various IMO instruments, and to refer to these Guidelines when preparing appropriate national legislation.

1 General remarks

1.1 The ISM Code establishes an international standard for the safe management and operation of ships by defining elements which must be taken into account for the organization of company management in relation to ship safety and pollution prevention. Since emergencies, as well as cargo spillage, cannot be entirely controlled either through design, or through normal operational procedures, emergency preparedness and pollution prevention should form part of the company's ship safety management. For this purpose, every company is required by the ISM Code to develop, implement and maintain a Safety Management System (SMS).

1.2 Within this SMS, potential emergency shipboard situations should be identified and procedures should be established to respond to them.

1.3 If the preparation of response actions for the many possible varying types of emergency situations which may occur are formulated on the basis of a complete and detailed case-by-case consideration, a great deal of duplication will result.

1.4 To avoid duplication, shipboard contingency plans must differentiate between "initial actions" and the major response effort involving "subsequent response", depending on the emergency situation and the type of ship.

1.5 A two-tier course of action provides the basis for a modular approach, which can avoid unnecessary duplication.

1.6 It is recommended that a uniform and integrated system of shipboard emergency plans should be treated as part of the International Safety Management (ISM) Code, forming a fundamental part of the company's individual Safety Management System (SMS).

1.7 An illustration of how such a structure of a uniform and integrated system of shipboard emergency plans with its different modules can be incorporated into an individual SMS is shown in appendix 1.

2 Integrated system of contingency plans for shipboard emergencies

2.1 Scope

2.1.1 The integrated system of shipboard emergency plans (hereinafter referred to as the "system") should provide a framework for the many individual contingency plans (hereinafter referred to as the "plans"), tailored for a variety of potential emergencies, for a uniform and modular designed structure.

2.1.2 Use of a modular designed structure will provide a quickly visible and logically sequenced source of information and priorities, which can reduce error and oversight during emergency situations.

2.2 Structure of the system

2.2.1 The structure of the system comprises the following six modules, the titles of which are:

- Module I: Introduction
- Module II: Provisions
- Module III: Planning, preparedness and training
- Module IV: Response actions
- Module V: Reporting procedures
- Module VI: Annex(es).

An example of the arrangement of these modules is shown in appendix 2.

2.2.2 Each module should contain concise information to provide guidance and to ensure that all appropriate and relevant factors and aspects, through the various actions and decisions during an emergency response, are taken into account.

2.3 Concept of the system

2.3.1 The system is intended as a tool for integrating the many different plans into a uniform and modular structured frame. The broad spectrum of the many required plans which may be developed by a company will result in the duplication of some elements (e.g. reporting) of these plans. Such duplication can be avoided by using the modular structure of the system referred to in 2.2.1.

2.3.2 Although the initial action taken in any emergency will depend upon the nature and extent of the incident, there are some immediate actions which should always be taken – the so-called "**initial actions**" (see appendix 4). Therefore, a distinction within the plans between "**initial actions**" and "**subsequent response**", which depends on variables like the ship's cargo, type of the ship, etc., will help to assist shipboard personnel in dealing with unexpected emergencies and will ensure that the necessary actions are taken in a priority order.

2.3.3 "**Subsequent response**" is the implementation of the procedures applicable to the emergency.

3 System modules

3.1 General principles

3.1.1 As a starting point for the preparation of the system, appendix 3 provides guidance and a quick overview concerning the kind of information which may be inserted into the individual system modules.

3.1.2 Above all, the system should be developed in a user-friendly way. This will enhance its acceptance by shipboard personnel.

3.1.3 For the system as well as the associated plans to be effective it must be carefully tailored to the individual company and ship. When doing this, differences in ship type, construction, cargo, equipment, manning and route have to be taken into account.

3.2 Details of the individual modules

3.2.1 Module I: **Introduction**

3.2.1.1 The system should contain a module entitled "Introduction".

3.2.1.2 The content of this module should provide guidance and an overview of the subject-matter.

3.2.1.3 The following is an example of an introductory text:

INTRODUCTION

1 The system is intended to prepare shipboard personnel for an effective response to an emergency at sea.

2 The prime objective of the system is to provide guidance to shipboard personnel with respect to the steps to be taken when an emergency has occurred or is likely to occur. Of equal benefit is the experience of those involved in developing the plan.

3 The purpose of the system is to integrate contingency plans for shipboard emergency situations and to avoid the development of different, non-harmonized and unstructured plans which would hamper their acceptance by shipboard personnel and their proper use in an emergency situation. Therefore, the system and its integrated plans should be structured and formatted in their layout and content in a consistent manner.

4 The aim of the system is to ensure the most timely and adequate response to emergencies of varied size and nature, and to remove any threat of serious escalation of the situation. Additionally the system provides a structure to prevent critical steps from being overlooked.

5 The system and associated plans should be seen as dynamic, and should be reviewed after implementation and improved through the sharing of experience, ideas and feedback.

6 It should be kept in mind that there could be problems in communication due to differing language or culture of the shipboard personnel. The system, as well as the integrated plans, will be documents used on board by the master, officers and relevant crew members of the ship, and they must be available in the working language of the crew. Any change in these personnel, which results in a change in the crew's working language requires plans to be issued in the new language. The module should provide information to this effect.

7 The system is to be seen as a tool for implementing the requirements of paragraphs 1.2.2.2 and 8 of the International Safety Management (ISM) Code, or similar regulations in other IMO instruments, in a practical manner.

3.2.2 Module II: **Provisions**

3.2.2.1 This module should contain information and explanations on how the system could be developed on the basis of suggestions for improvement made by the individual company and shipboard personnel.

3.2.2.2 The primary objective of shipboard emergency prevention, preparedness and response activities should be to develop and implement an efficient and effective system which will minimize the risks to human life, the marine environment and property, with a continuous effort towards improvement.

3.2.2.3 To achieve this objective, there is a need for coordination of, and consistency in, safety procedures between the company and its ships. Therefore, the module should require that company shore-based and shipboard contingency planning and response are consistent and appropriately linked.

3.2.2.4 Safety involves "top-down" and "bottom-up" commitment to active development and application of safety procedures and practices by all persons both ashore and afloat, including management.

3.2.2.5 Free and open communication when evaluating emergency procedures, taking into consideration accidents and near misses when using this system, should be pursued, with the objective of improving accident prevention, preparedness and response aboard ships. The module should take care of this recommendation by providing information for the implementation of an error reduction strategy with appropriate feedback and procedures for modification of plans.

3.2.2.6 In summary, the module should inform the system user about the most important requirements with which, at a minimum, the plans should comply. The following main elements should be addressed in the module:

- procedures to be followed when reporting an emergency;

- procedures for identifying, describing and responding to potential emergency shipboard situations; and

- programmes/activities for the maintenance of the system and associated plans.

3.2.3 Module III: **Planning, preparedness and training**

3.2.3.1 This module should provide for emergency training and education of shipboard personnel with a view to developing general awareness and understanding of actions to be taken in the event of an emergency.

3.2.3.2 The system and plans will be of little value if the personnel who are to use them are not made familiar with them. Module III should therefore provide practical information which enables each key member of the shipboard personnel to know in advance what their duties and responsibilities are and to whom they are to report under the plans. Responsibility should be assigned for each emergency system, and it should be incumbent on the Company that all relevant officers and crew members should understand, be trained and should be capable of operating the emergency systems, such as fixed fire extinguishing systems, emergency generator, emergency steering, fire pumps, etc.

3.2.3.3 Successful management of an emergency or marine crisis situation depends on the ability of the shipboard personnel, the company, and external emergency coordinating authorities to muster sufficient resources in the right positions quickly.

3.2.3.4 An important goal of planning, preparedness and training programmes should be to increase awareness of safety and environmental issues.

3.2.3.5 Training should be at regular intervals and, in particular, be provided to shipboard personnel transferred to new assignments.

3.2.3.6 Records of all emergency drills and exercises conducted ashore and on board should be maintained and be available for verification. The drills and exercises should be evaluated as an aid to determining the effectiveness of documented procedures and identifying system improvements.

3.2.3.7 When developing plans for drills and exercises, a distinction should be made between full-scale drills involving all the parties that may be involved in a major incident and exercises limited to the ship and/or the company.

3.2.3.8 Feedback is essential for refining emergency response plans and emergency preparedness based on the lessons learned from previous exercises, accident investigations or real emergencies, and provides an avenue for continuous improvement. Feedback should ensure that the company, as well as the ship, is prepared to respond to shipboard emergencies (see summarizing flow diagram in appendix 1).

3.2.3.9 In conclusion, the module should, as a minimum, provide information on the procedures, programmes or activities developed in order to:

- familiarize shipboard personnel with the provisions of the system and plans;
- provide training for shipboard personnel about the system and plans, in particular to personnel transferred to new assignments;
- schedule regular drills and exercises to prepare shipboard personnel to deal with potential shipboard emergency situations;
- coordinate the shipboard personnel and the company's actions effectively, and include and take note of the aid which could be provided by external emergency coordinating authorities; and
- prepare a workable feedback system.

3.2.4 Module IV: **Response actions**

This module should provide guidance for shipboard personnel in an emergency when the ship is underway, berthed, moored, at anchor, in port or dry-dock.

3.2.4.1 In an emergency, the best course of action to protect the personnel, ship, marine environment and cargo requires careful consideration and prior planning. Standards for shipboard procedures to protect personnel, stabilize conditions, and minimize environmental damage when an incident occurs should therefore be developed.

3.2.4.2 In this context reference is made to the guidelines already developed by the Organization, which contain information to provide a starting point and to assist personnel in the preparation of plans for individual ships.

3.2.4.3 The variety of plans to be incorporated in the system should be simple documents which outline procedures different from those used for daily routine operations. With normal operational procedures very difficult problems can be handled, but an emergency situation, whether on the ship at sea or in a port, can extend those involved beyond their normal capabilities.

3.2.4.4 In order to keep the plans held by ship and shore identical, and to reduce possible confusion in an emergency as to who is responsible for which action, plans should make clear whether the action should be taken by shipboard personnel or shoreside personnel.

3.2.4.5 Taking these particulars into consideration, the module "Response actions" should comprise main groupings of emergency shipboard situations.

3.2.4.6 Potential emergency situations should be identified in the plans, including, but not limited to, the following main groups of emergency:

.1 Fire;

.2 Damage to the ship;

.3 Pollution;

.4 Unlawful acts threatening the safety of the ship and the security of its passengers and crew;

.5 Personnel accidents;

.6 Cargo related accidents; and

.7 Emergency assistance to other ships.

In order to give the company the necessary flexibility for identifying, describing and responding to further shipboard emergency situations, more specific types of emergency should be included in the main groups.

3.2.4.7 The above-mentioned main groups can be further subdivided to cover the majority of shipboard emergencies.

The detailed response actions should be formulated so as to set in motion the necessary steps to limit the consequence of the emergency and the escalation of damage following, for example, collision or grounding.

3.2.4.8 The Company should identify all possible situations where shipboard contingency planning would be required relative to the operational requirements, ship's type, equipment and trade. The Company should consider which shipboard contingency plans should be reviewed and/or updated whenever changing trade patterns.

3.2.4.9 In all cases priority should be given to actions which protect life, the marine environment and property, in that order. This means that "**initial actions**" which are common for all ships, regardless of their type and the cargoes carried, should be fully taken into account when formulating "**subsequent response**" procedures.

3.2.4.10 The planning of subsequent response actions should include information relating to the individual ship and its cargo, and provide advice and data to assist the shipboard personnel. Examples of such information are listed below:

.1 Information on:

- the number of persons aboard;
- the cargo carried (e.g. dangerous goods, etc.);

.2 Steps to initiate external response:

- search and rescue coordination;
- buoyancy, strength and stability calculations;
- engagement of salvors/rescue towage;
- lightering capacity;
- external clean-up resources;

.3 Ship drift characteristics

.4 General information:

- cooperation with national and port authorities;
- public relations.

3.2.4.11 Although shipboard personnel should be familiar with the plan, ease of reference is an important element in compiling and using an effective plan. Allowance must be made for quick and easy access to essential information under stressful conditions. Appendices 3 and 4 show a detailed picture of the sequence of priorities for "**initial actions**" in an emergency situation and their link with the "**subsequent response**".

3.2.4.12 In summary, the module should guide those responsible for developing the system on what should be included in emergency plans, namely:

- coordination of response efforts;
- response procedures for the entire spectrum of possible accident scenarios, including methods that protect life, the marine environment and property;
- the person or persons identified by title or name as being in charge of all response activities;
- the communication lines used for ready contact with external response experts;
- information concerning the availability and location of response equipment; and
- reporting and communication procedures on board ship.

A seven-step approach flow chart for emergency plan(s) implementation is presented on page 13.

3.2.5 Module V: **Reporting procedures**

A ship involved in an emergency situation, or in a marine pollution incident will have to communicate with the appropriate ship interest contacts and coastal State or port contacts. Therefore, the system must specify in appropriate detail the procedures for making the initial report to the parties concerned. This module should take care of the following:

3.2.5.1 Every effort should be made to assure that information regarding:

- ship interest contacts;
- coastal State contacts; and
- port contacts,

for reporting emergencies are part of the system and are regularly updated.

3.2.5.2 The establishment and maintenance of rapid and reliable 24-hour communication lines between the ship in danger and emergency control centre(s), company's main office and national authorities (RCC, points of contact), is important.

3.2.5.3 Those managing response operations on board and services assisting ashore should keep each other mutually informed of the situation.

3.2.5.4 Details such as telephone, telex and telefax numbers must be routinely updated to take account of personnel changes. Clear guidance should also be provided regarding the preferred means of communication.

3.2.5.5 In this context, reference is made to the Organization's guidelines and other national specific plans which give sufficient guidance on the following reporting activities necessary:

.1 when to report;

.2 how to report;

.3 whom to contact; and

.4 what to report.

3.2.6 Module VI: **Annex(es)**

In addition to the information required to respond successfully to an emergency situation, other requirements that will enhance the ability of shipboard personnel to locate and follow-up operative part 5 of the plan may be required.

4 Example format for a procedure of a selected emergency situation

An example format for a procedure of a selected emergency situation referred to in 3.2.4 is shown on pages 14 to 18.

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ANNEX 19

DRAFT ASSEMBLY RESOLUTION

IMO INSTRUMENTS IMPLEMENTATION CODE (III CODE)

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO that, through resolution A.1018(26), it approved the time frame and schedule of activities for the consideration and introduction of an institutionalized IMO Member State Audit Scheme,

RECALLING ALSO that, by resolution A.1054(27), it adopted the Code for the Implementation of Mandatory IMO Instruments, 2011, that provides guidance for the implementation and enforcement of IMO instruments and forms the basis of the Voluntary IMO Member State Audit Scheme, in particular concerning the identification of the auditable areas,

BEING AWARE of the request of the seventh session of the UN Commission on Sustainable Development (CSD 7) that measures be developed to ensure that flag States give full and complete effect to the IMO and other relevant conventions to which they are party, so that the ships of all flag States meet international rules and standards,

RECOGNIZING that parties to the relevant international conventions have, as part of the ratification process, accepted to fully meet their responsibilities and to discharge their obligations under the conventions and other instruments to which they are party,

REAFFIRMING that States have the primary responsibility to have in place an adequate and effective system to exercise control over ships entitled to fly their flag, and to ensure that they comply with relevant international rules and regulations in respect of maritime safety, security and protection of the marine environment,

REAFFIRMING ALSO that States, in their capacity as port and coastal States, have other obligations and responsibilities under applicable international law in respect of maritime safety, security and protection of the marine environment,

NOTING that, while States may realize certain benefits by becoming party to instruments aiming at promoting maritime safety, security and the prevention of pollution from ships, these benefits can only be fully realized when all parties carry out their obligations as required by the instruments concerned,

NOTING ALSO that the ultimate effectiveness of any instrument depends, inter alia, upon all States:

(a) becoming party to all instruments related to maritime safety, security and pollution prevention and control;

(b) implementing and enforcing such instruments fully and effectively;

(c) reporting to the Organization, as required,

BEING DESIROUS to further assist Member Governments to improve their capabilities and overall performance in order to be able to comply with the IMO instruments to which they are party,

CONSCIOUS of the difficulties some Member States may face in complying fully with all the provisions of the various IMO instruments to which they are party,

MINDFUL of the need for any such difficulties to be eliminated to the extent possible; and recalling that the Organization has established an Integrated Technical Co-operation Programme for that reason and purpose,

NOTING FURTHER that the Maritime Safety Committee and the Marine Environment Protection Committee have developed requirements for adoption by Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, and the Protocol of 1988 relating to the International Convention on Load Lines, 1966; the International Convention for the Prevention of Pollution of the Sea by Oil, 1973, as modified by the Protocol of 1978 relating thereto and the Protocol of 1997 to amend the International Convention for the Prevention of Pollution of the Sea by Oil, 1973, as modified by the Protocol of 1978 relating thereto, respectively, which will make compliance with the Code referred to in operative paragraph 1 mandatory,

RECALLING FURTHER its consideration of requirements for adoption by Contracting Governments to the International Convention on Load Lines, 1966, the International Convention on Tonnage Measurement of Ships, 1969 and the Convention on the International Regulation for Preventing Collisions at Sea (COLREG), 1972, which will also make compliance with the Code referred to in operative paragraph 1 mandatory,

HAVING CONSIDERED the recommendations made by the Marine Environment Protection Committee [at its sixty-fourth] session and the Maritime Safety Committee, [at its ninety-first] session,

1. ADOPTS the IMO Instruments Implementation Code (III Code), set out in the annex to the present resolution;

2. REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee to keep the Code under review and, in coordination with the Council, to propose amendments thereto to the Assembly.

ANNEX

DRAFT IMO INSTRUMENTS IMPLEMENTATION CODE (III CODE)

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PART 1 – COMMON AREAS

Objective

1 The objective of this Code is to enhance global maritime safety and protection of the marine environment and assist States in the implementation of instruments of the Organization.

2 Different States will view this Code according to their own circumstances and should be bound only for the implementation of those instruments to which they are Contracting Governments or Parties. By virtue of geography and circumstance, some States may have a greater role as a flag State than as a port State or as a coastal State, whilst others may have a greater role as a coastal State or port State than as a flag State.

Strategy

3 In order to meet the objective of this Code, a State is recommended to:

.1 develop an overall strategy to ensure that its international obligations and responsibilities as a flag, port and coastal State are met;

.2 establish a methodology to monitor and assess that the strategy ensures effective implementation and enforcement of relevant international mandatory instruments; and

.3 continuously review the strategy to achieve, maintain and improve the overall organizational performance and capability as a flag, port and coastal State.

General

4 Under the general provisions of treaty law and of IMO conventions, States should be responsible for promulgating laws and regulations and for taking all other steps which may be necessary to give those instruments full and complete effect so as to ensure safety of life at sea and protection of the marine environment.

5 In taking measures to prevent, reduce and control pollution of the marine environment, States should act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.

Scope

6 The Code seeks to address those aspects necessary for a Contracting Government or Party to give full and complete effect to the provisions of the applicable international instruments to which it is a Contracting Government or Party, pertaining to:

.1 safety of life at sea;

.2 prevention of pollution from ships;

.3 standards of training, certification and watchkeeping for seafarers;

.4 load lines;

.5 tonnage measurement of ships; and

.6 regulations for preventing collisions at sea.

7 The following areas should be considered and addressed in the development of policies, legislation, associated rules and regulations and administrative procedures for the implementation and enforcement of those obligations and responsibilities by the State:

.1 jurisdiction;

.2 organization and authority;

.3 legislation, rules and regulations;

.4 promulgation of the applicable international mandatory instruments, rules and regulations;

.5 enforcement arrangements;

.6 control, survey, inspection, audit, verification, approval and certification functions;

.7 selection, recognition, authorization, empowerment and monitoring of recognized organizations, as appropriate, and of nominated surveyors;

.8 investigations required to be reported to the Organization; and

.9 reporting to the Organization and other Administrations.

Initial actions

8 When a new or amended instrument of the Organization enters into force for a State, the Government of that State should be in a position to implement and enforce its provisions through appropriate national legislation and to provide the necessary implementation and enforcement infrastructure. This means that the Government of the State should have:

.1 the ability to promulgate laws, which permit effective jurisdiction and control in administrative, technical and social matters over ships flying its flag and, in particular, provide the legal basis for general requirements for registries, the inspection of ships, safety and pollution-prevention laws applying to such ships and the making of associated regulations;

.2 a legal basis for the enforcement of its national laws and regulations including the associated investigative and penal processes; and

.3 the availability of sufficient personnel with maritime expertise to assist in the promulgation of the necessary national laws and to discharge all the responsibilities of the State, including reporting as required by the respective conventions.

Communication of information

9 The State should communicate its strategy, as referred to in paragraph 3, including information on its national legislation to all concerned.

Records

10 Records, as appropriate, should be established and maintained to provide evidence of conformity to requirements and of the effective operation of the State. Records should remain legible, readily identifiable and retrievable. A documented procedure should be established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

Improvement

11 States should continually improve the adequacy of the measures which are taken to give effect to those conventions and protocols which they have accepted. Improvement should be made through rigorous and effective application and enforcement of national legislation, as appropriate, and monitoring of compliance.

12 The State should stimulate a culture which provides opportunities for improvement of performance in maritime safety and environmental protection activities, which may include, inter alia:

.1 continual training programmes relating to safety and pollution prevention;

.2 regional and national drills on safety and pollution prevention, which engage a broad spectrum of maritime related national, regional and international organizations and companies and seafarers; and

.3 using reward and incentive mechanisms for shipping companies and seafarers, regarding improving safety and pollution prevention.

13 Further, the State should take action to identify and eliminate the cause of any non-conformities in order to prevent recurrence, including:

.1 review and analysis of non-conformities;

.2 implementation of necessary corrective action; and

.3 review of the corrective action taken.

14 The State should determine action needed to eliminate the causes of potential non-conformities in order to prevent their occurrence.

PART 2 – FLAG STATES

Implementation

15 In order to effectively discharge their responsibilities and obligations, flag States should:

.1 implement policies through the issuance of national legislation and guidance, which will assist in the implementation and enforcement of the

requirements of all safety and pollution prevention conventions and protocols to which they are parties; and

.2 assign responsibilities within their Administrations to update and revise any relevant policies adopted, as necessary.

16 A flag State should establish resources and processes capable of administering a safety and environmental protection programme, which, as a minimum, should consist of the following:

.1 administrative instructions to implement applicable international rules and regulations as well as develop and disseminate any interpretative national regulations that may be needed including certificates issued by a classification society, which is recognized by the flag State in accordance with the provisions of SOLAS regulation XI-1/1, and which certificate is required by the flag State to demonstrate compliance with structural, mechanical, electrical, and/or other requirements of an international convention to which the flag State is a party or a requirement of the flag State's national regulations;

.2 compliance with the requirements of the applicable international instruments, using an audit and inspection programme, independent of any administrative bodies issuing the required certificates and relevant documentation and/or of any entity which has been delegated authority by the State to issue the required certificates and relevant documentation;

.3 compliance with the requirements related to international standards of training, certification and watchkeeping of seafarers. This includes, inter alia:

.1 training, assessment of competence and certification of seafarers;

.2 certificates and endorsements that accurately reflect the competencies of the seafarers, using the appropriate terminology as well as terms which are identical to those used in any safe manning document issued to the ship;

.3 impartial investigation to be held of any reported failure, whether by act or omission, that may pose a direct threat to safety of life or property at sea or to the marine environment, by the holders of certificates or endorsements issued by the State;

.4 that certificates or endorsements issued by the State can be effectively withdrawn, suspended or cancelled when warranted, and when necessary to prevent fraud; and

.5 administrative arrangements, including those involving training, assessment and certification activities conducted under the purview of another State, are such that the flag State accepts its responsibility for ensuring the competence of masters, officers and other seafarers serving on ships entitled to fly its flag;

.4 the conduct of investigations into casualties and adequate and timely handling of cases of ships with identified deficiencies; and

.5 the development, documentation and provision of guidance concerning those requirements that are to the satisfaction of the Administration, found in the relevant international instruments.

17 A flag State should ensure that ships entitled to fly its flag are sufficiently and efficiently manned, taking into account relevant and existing measures such as the Principles of Safe Manning adopted by the Organization.

Delegation of authority

18 With regard only to ships entitled to fly its flag a flag State authorizing a recognized organization to act on its behalf, in conducting the surveys, inspections and audits, issuing of certificates and documents, marking of ships and other statutory work required under the conventions of the Organization or under their national legislation, should regulate such authorization(s) in accordance with the applicable requirements of the international mandatory instruments to:

.1 determine that the recognized organization has adequate resources in terms of technical, managerial and research capabilities to accomplish the tasks being assigned, in accordance with the required standards for recognized organizations acting on behalf of the Administration set out in the relevant instruments of the Organization[1];

.2 have as its basis a formal written agreement between the Administration and the recognized organization which, as a minimum, includes the elements set out in the relevant instruments of the Organization[2], or equivalent legal arrangements, and which may be based on the model agreement for the authorization of recognized organizations acting on behalf of the Administration[3];

.3 issue specific instructions detailing actions to be followed in the event that a ship is found unfit to proceed to sea without danger to the ship or persons on board, or is found to present an unreasonable threat of harm to the marine environment;

.4 provide the recognized organization with all appropriate instruments of national law and interpretations thereof giving effect to the provisions of the conventions and specify, only for application to ships entitled to fly its flag, whether any additional Administration's standards go beyond convention requirements in any respect; and

.5 require that the recognized organization maintain records, which will provide the Administration with data to assist in interpretation of requirements contained in the applicable international instruments.

1 Appendix 1 of the *Guidelines for the authorization of organizations acting on behalf of the Administration* (resolution A.739(18)).

2 Appendix 2 of the *Guidelines for the authorization of organizations acting on behalf of the Administration* (resolution A.739(18)).

3 MSC/Circ.710-MEPC/Circ.307.

19 No flag State should mandate its recognized organizations to apply to ships, other than those entitled to fly its flag, any requirement pertaining to their classification rules, requirements, procedures or performance of other statutory certification processes, beyond convention requirements and the mandatory instruments of the Organization.

20 The flag State should establish or participate in an oversight programme with adequate resources for monitoring of, and communication with, its recognized organization(s) in order to ensure that its international obligations are fully met, by:

.1 exercising its authority to conduct supplementary surveys to ensure that ships entitled to fly its flag in fact comply with the requirements of the applicable international instruments;

.2 conducting supplementary surveys as it deems necessary to ensure that ships entitled to fly its flag comply with national requirements, which supplement the international mandatory requirements; and

.3 providing staff who have a good knowledge of the rules and regulations of the flag State and the recognized organizations and who are available to carry out effective oversight of the recognized organizations.

21 A flag State nominating surveyor(s) for the purpose of carrying out surveys, audits and inspections on its behalf should regulate such nominations, as appropriate, in accordance with the guidance provided in paragraph 18, in particular subparagraphs .3 and .4.

Enforcement

22 A flag State should take all necessary measures to secure observance of international rules and standards by ships entitled to fly its flag and by entities and persons under their jurisdiction so as to ensure compliance with their international obligations. Such measures should include, inter alia:

.1 prohibiting ships entitled to fly their flag from sailing until such ships can proceed to sea in compliance with the requirements of international rules and standards;

.2 the periodic inspection of ships entitled to fly its flag to verify that the actual condition of the ship and its crew is in conformity with the certificates it carries;

.3 the surveyor ensuring, during the periodic inspection referred to in subparagraph .2, that seafarers assigned to the ships are familiar with:

.1 their specific duties; and

.2 ship arrangements, installations, equipments and procedures;

.4 ensuring that the ship's complement, as a whole, can effectively coordinate their activities in an emergency situation and in performing functions vital to safety or to the prevention or mitigation of pollution;

.5 providing, in national laws and regulations, for penalties of adequate severity to discourage violation of international rules and standards by ships entitled to fly its flag;

.6 instituting proceedings – after an investigation has been conducted – against ships entitled to fly its flag, which have violated international rules and standards, irrespective of where the violation has occurred;

.7 providing, in national laws and regulations, for penalties of adequate severity to discourage violations of international rules and standards by individuals issued with certificates or endorsements under their authority; and

.8 instituting proceedings – after an investigation has been conducted – against individuals holding certificates or endorsements who have violated international rules and standards, irrespective of where the violation has occurred.

23 A flag State should develop and implement a control and monitoring programme, as appropriate, in order to:

.1 provide for prompt and thorough casualty investigations, with reporting to the Organization as appropriate;

.2 provide for the collection of statistical data, so that trend analyses can be conducted to identify problem areas; and

.3 provide for a timely response to deficiencies and alleged pollution incidents reported by port or coastal States.

24 Furthermore, the flag State should:

.1 ensure compliance with the applicable international instruments through national legislation;

.2 provide an appropriate number of qualified personnel to implement and enforce the national legislation referred to in subparagraph 15.1, including personnel for performing investigations and surveys;

.3 provide a sufficient number of qualified flag State personnel to investigate incidents where ships entitled to fly its flag have been detained by port States;

.4 provide a sufficient number of qualified flag State personnel to investigate incidents where the validity of a certificate or endorsement or competence of individuals holding certificates or endorsements issued under its authority are questioned by port States; and

.5 ensure the training and oversight of the activities of flag State surveyors and investigators.

25 When a State is informed that a ship entitled to fly its flag has been detained by a port State, the flag State should oversee that appropriate corrective measures to bring the ship in question into immediate compliance with the applicable international instruments are taken.

26 A flag State, or a recognized organization acting on its behalf, should only issue or endorse an international certificate to a ship after it has determined that the ship meets all applicable requirements.

27 A flag State should only issue an international certificate of competency or endorsement to a person after it has determined that the person meets all applicable requirements.

Flag State surveyors

28 The flag State should define and document the responsibilities, authority and interrelation of all personnel who manage, perform and verify work relating to and affecting safety and pollution prevention.

29 Personnel responsible for, or performing, surveys, inspections and audits on ships and companies covered by the relevant international mandatory instruments should have as a minimum the following:

.1 appropriate qualifications from a marine or nautical institution and relevant seagoing experience as a certificated ship officer holding or having held a valid management level certificate of competency and have maintained their technical knowledge of ships and their operation since gaining their certificate of competency; or

.2 a degree or equivalent from a tertiary institution within a relevant field of engineering or science recognized by the State; or

.3 accreditation as a surveyor through a formalized training programme that leads to the same standard of surveyor's experience and competency as that required in paragraphs 29.1, 29.2 and 32.

30 Personnel qualified under paragraph 29.1 should have served for a period of not less than three years at sea as an officer in the deck or engine department.

31 Personnel qualified under paragraph 29.2 should have worked in a relevant capacity for at least three years.

32 In addition, such personnel should have appropriate practical and theoretical knowledge of ships, their operation and the provisions of the relevant national and international instruments necessary to perform their duties as flag State surveyors obtained through documented training programmes.

33 Other personnel assisting in the performance of such work should have education, training and supervision commensurate with the tasks they are authorized to perform.

34 Previous relevant experience in the field of expertise is recommended to be considered an advantage; in case of no previous experience, the Administration should provide appropriate field training.

35 The flag State should implement a documented system for qualification of personnel and continuous updating of their knowledge as appropriate to the tasks they are authorized to undertake.

36 Depending on the function(s) to be performed, the qualifications should encompass:

.1 knowledge of applicable, international and national, rules and regulations for ships, their companies, their crew, their cargo and their operation;

.2 knowledge of the procedures to be applied in survey, certification, control, investigative and oversight functions;

.3 understanding of the goals and objectives of the international and national instruments dealing with maritime safety and protection of the marine environment, and of related programmes;

.4 understanding of the processes both on board and ashore, internal as well as external;

.5 possession of professional competency necessary to perform the given tasks effectively and efficiently;

.6 full safety awareness in all circumstances, also for one's own safety; and

.7 training or experience in the various tasks to be performed and, preferably, also in the functions to be assessed.

37 The flag State should issue an identification document for the surveyor to carry when performing his/her tasks.

Flag State investigations

38 Marine safety investigations should be conducted by impartial and objective investigators, who are suitably qualified and knowledgeable in matters relating to the casualty. Subject to any agreement on which State or States will be the marine safety investigating State(s), the flag State should provide qualified investigators for this purpose, irrespective of the location of the casualty or incident.

39 The flag State is recommended to ensure that individual investigators have working knowledge and practical experience in those subject areas pertaining to their normal duties. Additionally, to assist individual investigators in performing duties outside their normal assignments, the flag State is recommended to ensure ready access to expertise in the following areas, as necessary:

.1 navigation and the Collision Regulations;

.2 flag State regulations on certificates of competency;

.3 causes of marine pollution;

.4 interviewing techniques;

.5 evidence gathering; and

.6 evaluation of the effects of the human element.

40 Any accidents involving personal injury necessitating absence from duty of three days or more and any deaths resulting from occupational accidents and casualties to ships of the flag State is recommended to be investigated, and the results of such investigations made public.

41 Ship casualties should be investigated and reported in accordance with the relevant international instruments, taking into account the Casualty Investigation Code, as may be amended, and guidelines developed by the Organization[4]. The report on the investigation should be forwarded to the Organization together with the flag State's observations, in accordance with the guidelines referred to above.

Evaluation and review

42 A flag State should, on a periodic basis, evaluate its performance with respect to the implementation of administrative processes, procedures and resources necessary to meet its obligations as required by the international instruments to which it is a party.

43 Measures to evaluate the performance of flag States should include, inter alia, port State control detention rates, flag State inspection results, casualty statistics, communication and information processes, annual loss statistics (excluding constructive total losses (CTLs)), and other performance indicators as may be appropriate, to determine whether staffing, resources and administrative procedures are adequate to meet its flag State obligations.

44 Areas recommended to be regularly reviewed may include, inter alia:

.1 fleet loss and accident ratios to identify trends over selected time periods;

.2 the number of verified cases of detained ships in relation to the size of the fleet;

.3 the number of verified cases of incompetence or wrongdoing by individuals holding certificates or endorsements issued under its authority;

.4 responses to port State deficiency reports or interventions;

.5 investigations into very serious and serious casualties and lessons learned from them;

.6 technical and other resources committed;

.7 results of inspections, surveys and controls of the ships in the fleet;

.8 investigation of occupational accidents;

.9 the number of incidents and violations that occur under the applicable international maritime pollution prevention regulations; and

.10 the number of suspensions or withdrawals of certificates, endorsements, approvals, etc.

[4] Refer to the *Code for the Investigation of Marine Casualties and Incidents*, adopted by the Organization by resolution A.849(20), as amended by resolution A.884(21), and the mandatory *Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code)*, adopted by the Organization by resolution MSC.255(84).

PART 3 – COASTAL STATES[5]

Implementation

45 Coastal States have certain rights and obligations under various international instruments. When exercising their rights under those instruments coastal States incur additional obligations.

46 In order to effectively meet its obligations, a coastal State should:

.1 implement policies through the issuance of national legislation and guidance, which will assist in the implementation and enforcement of the requirements of all safety and pollution prevention conventions and protocols to which it is a party; and

.2 assign responsibilities to update and revise any relevant policies adopted, as necessary.

47 A coastal State should ensure that its legislation, guidance and procedures are established for the consistent implementation and verification of its rights, obligations and responsibilities contained in the relevant international instruments to which it is a party.

48 Those rights, obligations and responsibilities may include, inter alia:

.1 radiocommunication services;

.2 meteorological services and warnings;

.3 search and rescue services;

.4 hydrographic services;

.5 ships' routeing;

.6 ship reporting systems;

.7 vessel traffic services; and

.8 aids to navigation.

Enforcement

49 A coastal State should take all necessary measures to ensure their observance of international rules when exercising their rights and fulfilling their obligations.

50 A coastal State should consider, develop and implement a control and monitoring programme, as appropriate, in order to:

.1 provide for the allocation of statistical data so that trend analyses can be conducted to identify problem areas;

[5] The requirements contained in this section should apply to the extent that ships, subject to IMO mandatory instruments, can access the ports of the Contracting Government.

.2 establish mechanisms for timely response to pollution incidents in its waters; and

.3 cooperate with flag States and/or port States, as appropriate, in investigations of maritime casualties.

Evaluation and review

51 A coastal State should periodically evaluate its performance in respect of exercising its rights and meeting its obligations under the applicable international instruments.

PART 4 – PORT STATES[6]

Implementation

52 Port States have certain rights and obligations under various international instruments. When exercising their rights under those instruments, port States incur additional obligations.

53 Port States can play an integral role in the achievement of maritime safety and environmental protection, including pollution prevention. The role and responsibilities of the port State with respect to maritime safety and environmental protection is derived from a combination of international treaties, conventions, national laws, as well as in some instances, bilateral and multilateral agreements.

54 In order to effectively meet its obligations, a port State should:

.1 implement policies through the issuance of national legislation and guidance, which will assist in the implementation and enforcement of the requirements of all safety and pollution prevention conventions and protocols to which it is a party; and

.2 assign responsibilities to update and revise any relevant policies adopted, as necessary.

55 A port State should ensure that its legislation, guidance and procedures are established for the consistent implementation and verification of its rights, obligations and responsibilities contained in the relevant international instruments to which it is a party.

56 Those rights, obligations and responsibilities may include, inter alia:

.1 provision of appropriate reception facilities or capability to accept all waste streams regulated under the instruments of the Organization;

.2 port State control[7]; and

.3 keeping a register of fuel oil suppliers.

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6 The requirements contained in this section should apply to the extent that ships, subject to IMO mandatory instruments, can access the ports of the Contracting Government.

7 Refer to the *Procedures for Port State Control, 2011* (resolution A.1052(27)).

Enforcement

57 Port States should take all necessary measures to ensure their observance of international rules when exercising their rights and fulfilling their obligations.

58 Several international maritime instruments on safety and maritime pollution prevention contain specific provisions that permit port State control.

59 Also, a number of those instruments obligate port States to treat non-parties to those conventions no more favourably than those that are parties. This means that port States should impose the conditions of those instruments on parties, as well as on non-parties.

60 When exercising its right to carry out port State control, a port State should establish processes to administer a port State control programme consistent with the relevant resolution adopted by the Organization[7].

61 Port State control should be carried out only by authorized and qualified port State control officers in accordance with the relevant procedures adopted by the Organization.

62 Port State control officers and persons assisting them should be free from any commercial, financial, and other pressures and have no commercial interest, either in the port of inspection or the ships inspected, in ship repair facilities or any support services in the port or elsewhere nor should the port State control officers be employed by or undertake work on behalf of recognized organizations or classification societies. Further procedures should be implemented to ensure that persons or organizations external to the port State cannot influence the results of port State inspection and control carried out.

Evaluation and review

63 A port State should periodically evaluate its performance in respect of exercising its rights and meeting its obligations under the applicable instruments of the Organization.

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ANNEX 20

DRAFT AMENDMENTS TO MARPOL ANNEXES I, II, III, IV, V AND VI
(To make the III Code mandatory)

Amendments to MARPOL Annex I

1 The following is added at the end of regulation 1:

"35 *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

36 *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*, which is intended to ensure the consistent and effective implementation of instruments of the Organization and to assist States to improve their capabilities and overall performance in this respect.

37 *Code for Implementation* means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.[....](28).

38 *Audit Standard* means the Code for Implementation, which shall be used to determine the extent to which Contracting Governments give full and complete effect to the provisions of the present Convention."

2 A new chapter 10 is added to read as follows:

"Chapter 10 – Verification of compliance with the provisions of this Convention

Regulation 44

Verification of compliance

1 Contracting Governments shall apply the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in the present Convention. For the purpose of this regulation, the requirements of the Code shall be treated as mandatory and its recommendations shall be treated as non-mandatory.

2 Every Contracting Government shall be subject to periodic audits by the Organization of its compliance with the audit standard and the requirements of the present Convention.

3 The Secretary-General of the Organization shall have responsibility for the implementation of the Audit Scheme, based on the guidelines developed by the Organization*.

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

4 Every Contracting Government shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization*.

5 Audit of all Contracting Governments shall be:

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization*."

Amendments to MARPOL Annex II

1 The following is added at the end of regulation 1:

"18 *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

19 *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*, which is intended to ensure the consistent and effective implementation of instruments of the Organization and to assist States to improve their capabilities and overall performance in this respect.

20 *Code for Implementation* means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.[....](28).

21 *Audit Standard* means the Code for Implementation, which shall be used to determine the extent to which Contracting Governments give full and complete effect to the provisions of the present Convention."

2 A new chapter 9 is added to read as follows:

"Chapter 9 – Verification of compliance with the provisions of this Convention

Regulation 19

Verification of compliance

1 Contracting Governments shall apply the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in the present Convention. For the purpose of this regulation, the requirements of the Code shall be treated as mandatory and its recommendations shall be treated as non-mandatory.

2 Every Contracting Government shall be subject to periodic audits by the Organization of its compliance with the audit standard and the requirements of the present Convention.

3 The Secretary-General of the Organization shall have responsibility for the implementation of the Audit Scheme, based on the guidelines developed by the Organization*.

4 Every Contracting Government shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines adopted by the Organization*.

5 Audit of all Contracting Governments shall be:

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization*."

Amendments† to MARPOL Annex III

1 A new chapter 1 is added before regulation 1 to read as follows:

"*Chapter 1 – General*"

2 A new regulation 1 is added to read as follows:

"Regulation 1

Definitions

For the purposes of this annex:

1 *Harmful substances* are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code) or which meet the criteria in the appendix of this annex.

2 *Packaged form* is defined as the forms of containment specified for harmful substances in the IMDG Code.

3 *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

4 *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*, which is intended to ensure the consistent and effective implementation of instruments of the Organization and to assist States to improve their capabilities and overall performance in this respect.

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

5 *Code for Implementation means* the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.[....](28).

6 *Audit Standard* means the Code for Implementation, which shall be used to determine the extent to which Contracting Governments give full and complete effect to the provisions of the present Annex."

3 Renumber the subsequent regulations accordingly.

4 In regulation 2, Application, subparagraphs 1.1 and 1.2 are deleted.

5 A new chapter 2 is added to read as follows:

"Chapter 2 – Verification of compliance with the provisions of this Annex

Regulation 10

Verification of compliance

1 Contracting Governments shall apply the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in the present Annex. For the purpose of this regulation, the requirements of the Code shall be treated as mandatory and its recommendations shall be treated as non-mandatory.

2 Every Contracting Government shall be subject to periodic audits by the Organization of its compliance with the audit standard and the requirements of the present Annex.

3 The Secretary-General of the Organization shall have responsibility for the implementation of the Audit Scheme, based on the guidelines developed by the Organization*.

4 Every Contracting Government shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization*.

5 Audit of all Contracting Governments shall be:

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization*."

Amendments† to MARPOL Annex IV

1 The following is added at the end of regulation 1:

"12 *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

13 *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*, which is intended to ensure the consistent and effective implementation of instruments of the Organization and to assist States to improve their capabilities and overall performance in this respect.

14 *Code for Implementation* means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.[....](28).

15 *Audit Standard* means the Code for Implementation, which shall be used to determine the extent to which Contracting Governments give full and complete effect to the provisions of the present Annex."

2 A new chapter 6 is added to read as follows:

"Chapter 6 – Verification of compliance with the provisions of this Annex

Regulation 15

Verification of compliance

1 Contracting Governments shall apply the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in the present Annex. For the purpose of this regulation, the requirements of the Code shall be treated as mandatory and its recommendations shall be treated as non-mandatory.

2 Every Contracting Government shall be subject to periodic audits by the Organization of its compliance with the audit standard and the requirements of the present Annex.

3 The Secretary-General of the Organization shall have responsibility for the implementation of the Audit Scheme, based on the guidelines developed by the Organization*.

4 Every Contracting Government shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization*.

5 Audit of all Contracting Governments shall be:

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization*.

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

Amendments† to MARPOL Annex V

1 A new chapter 1 is added before regulation 1 to read as follows:

"*Chapter 1 – General*"

2 The following is added at the end of regulation 1:

"[15] *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

[16] *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*, which is intended to ensure the consistent and effective implementation of instruments of the Organization and to assist States to improve their capabilities and overall performance in this respect.

[17] *Code for Implementation means* the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.[....](28).

[18] *Audit Standard* means the Code for Implementation, which shall be used to determine the extent to which Contracting Governments give full and complete effect to the provisions of the present Annex."

3 Add a new chapter 2 to read as follows:

"Chapter 2 – Verification of compliance with the provisions of this Annex

Regulation [11]

Verification of compliance

1 Contracting Governments shall apply the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in the present Annex. For the purpose of this regulation, the requirements of the Code shall be treated as mandatory and its recommendations shall be treated as non-mandatory.

2 Every Contracting Government shall be subject to periodic audits by the Organization of its compliance with the audit standard and the requirements of the present Annex.

3 The Secretary-General of the Organization shall have responsibility for the implementation of the Audit Scheme, based on the guidelines developed by the Organization*.

4 Every Contracting Government shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization*.

5 Audit of all Contracting Governments shall be:

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization*."

Amendments† to MARPOL Annex VI

1 The following is added at the end of regulation 2:

"For the purposes of this annex:

[38] *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

[39] *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*, which is intended to ensure the consistent and effective implementation of instruments of the Organization and to assist States to improve their capabilities and overall performance in this respect.

[40] *Code for Implementation* means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.[....](28).

[41] *Audit Standard* means the Code for Implementation, which shall be used to determine the extent to which Contracting Governments give full and complete effect to the provisions of the present Annex."

2 A new chapter [5] is added to read as follows:

"Chapter [5] – Verification of compliance with the provisions of this Annex

Regulation [24]

Verification of compliance

(1) Contracting Governments shall apply the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in the present Annex. For the purpose of this regulation, the requirements of the Code shall be treated as mandatory and its recommendations shall be treated as non-mandatory.

(2) Every Contracting Government shall be subject to periodic audits by the Organization of its compliance with the audit standard and the requirements of the present Annex.

(3) The Secretary-General of the Organization shall have responsibility for the implementation of the Audit Scheme, based on the guidelines developed by the Organization*.

* Refer to the Framework and Procedures for the [IMO] Member State Audit Scheme, adopted by the Organization by resolution [A.....(28)].

(4) Every Contracting Government shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization*.

(5) Audit of all Contracting Governments shall be:

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization*."

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ANNEX 21

STATEMENT BY THE DELEGATION OF CYPRUS ON THE APPROVAL OF THE DRAFT III CODE , DRAFT RO CODE AND DRAFT AMENDMENTS TO MARPOL TO MAKE THE TWO CODES MANDATORY

During the development of III and the RO Codes, Cyprus and a number of other Member States have voiced concerns over certain provisions of both Codes.

With apologies, Mr. Chairman, at this stage, we have not yet been able to complete the relevant examinations at national level. As Cyprus has been amongst the Member States which have supported the adoption of the two Codes and making them mandatory, we do not want to stop the Committee from making progress. However, in the interest of transparency, we feel obliged to advise the Committee that we may have to revert at a later stage on those provisions. Although the action point before the Committee is action point .9[14], we have commented also in relation to the RO Code, which is addressed under action point .18. When the Committee get to action point .18, this statement should be taken as read in respect to that action point.

Whilst considering the action requested under action point .9, Cyprus has made a statement and a number of Member States have associated themselves with that statement. Our previous statement has, to some degree, a bearing on the action requested under action point .12. At this stage, we understand that the action requested is to approve the proposed amendments to MARPOL for circulation with a view to adoption at a future date.

Cyprus continues to support making the III and RO Codes mandatory. However, in the interest of transparency, we feel obliged to advise the Committee that, as we have done through our previous statement, we may have to revert at a later stage on those provisions. Although the action point before the Committee is action point .12, we have commented also in relation to the RO Code, which is addressed under action point .19. When you come, Mr. Chairman, to action point .19, this statement should be taken as read in respect to that action point.

***

[14] Refer to action requested of the Committee by FSI 20, as contained in document MEPC 64/11/3.

ANNEX 22

RESOLUTION MEPC.227(64)

Adopted on 5 October 2012

2012 GUIDELINES ON IMPLEMENTATION OF EFFLUENT STANDARDS AND PERFORMANCE TESTS FOR SEWAGE TREATMENT PLANTS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

NOTING resolution MEPC.159(55) by which the Committee adopted, at its fifty-fifth session, the *Revised Guidelines on implementation of effluent standards and performance tests for sewage treatment plants* (the Revised Guidelines) and invited Governments to apply the Revised Guidelines when approving sewage treatment plants and provide the Organization with information on experience gained with their application, in particular, on successful testing of equipment against the standards contained in the Revised Guidelines,

NOTING ALSO resolution MEPC.200(62) by which the Committee adopted, at its sixty-second session, amendments to MARPOL Annex IV concerning Special Area provisions and the designation of the Baltic Sea as a special area, which are expected to enter into force on 1 January 2013,

NOTING FURTHER the provisions of regulations 9.1.1 and 9.2.1 of MARPOL Annex IV, in which reference is made to the above-mentioned Revised Guidelines,

RECOGNIZING that the Revised Guidelines should be amended in order that current trends for the protection of the marine environment, the need to address particular oceanographical and ecological conditions of the special area designated, and developments in the design and effectiveness of commercially available sewage treatment plants be reflected; and the proliferation of differing unilateral more stringent standards that might be imposed worldwide be avoided,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Ship Design and Equipment, at its fifty-sixth session,

1. ADOPTS the *2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants*, the text of which is set out in the annex to this resolution;

2. INVITES governments to:

.1 implement the 2012 Guidelines and apply them on or after 1 January 2016; and

.2 provide the Organization with information on experience gained with the application of the 2012 Guidelines;

3. ALSO INVITES Governments to issue an appropriate "Certificate of type approval for sewage treatment plants" as referred to in paragraph 5.4.2 and the annex of the 2012 Guidelines and to recognize certificates issued under the authority of other Governments as having the same validity as certificates issued by them;

4. SUPERSEDES the *Revised Guidelines on implementation of effluent standards and performance tests for sewage treatment plants*, adopted by resolution MEPC.159(55).

ANNEX

2012 GUIDELINES ON IMPLEMENTATION OF EFFLUENT STANDARDS AND PERFORMANCE TESTS FOR SEWAGE TREATMENT PLANTS

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2012 GUIDELINES ON IMPLEMENTATION OF EFFLUENT STANDARDS AND PERFORMANCE TESTS FOR SEWAGE TREATMENT PLANTS

1 INTRODUCTION

1.1 Background

1.1.1 The Marine Environment Protection Committee (MEPC) adopted resolution MEPC.2(VI), *Recommendation on International Effluent Standards and Guidelines for Performance Tests for Sewage Treatment Plants in 1976*. MEPC 55 in October 2006 adopted, by resolution MEPC.159(55), the *Revised Guidelines on implementation of effluent standards and performance tests for sewage treatment plants*, which superseded resolution MEPC.2(VI).

1.1.2 MEPC 62 adopted resolution MEPC.200(62) amending MARPOL by designating the Baltic Sea as a special area under Annex IV and prohibiting the discharge of sewage effluent from passenger ships operating in special areas, unless a passenger ship has in operation an approved sewage treatment plant implementing effluent standards and performance tests defined in the *2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants* (the Guidelines).

1.2 Application

1.2.1 These Guidelines amend the *Revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants*, adopted by resolution MEPC.159(55), by including the standards of section 4.2 that only apply to passenger ships which operate in MARPOL Annex IV special areas and which intend to discharge treated sewage effluent into the sea.

1.2.2 The requirements of these Guidelines, with the exception of the requirements in section 4.2, will apply to sewage treatment plants installed on or after 1 January 2016 on:

.1 ships, other than passenger ships, in all areas; and

.2 passenger ships outside MARPOL Annex IV special areas.

1.2.3 The requirements of these Guidelines, including those in section 4.2, will apply to sewage treatment plants installed on:

.1 new passenger ships when operating in a MARPOL Annex IV special area and intending to discharge treated sewage effluent into the sea on or after 1 January 2016; and

.2 existing passenger ships when operating in a MARPOL Annex IV special area and intending to discharge treated sewage effluent into the sea on or after 1 January 2018.

1.2.4 Sewage treatment plants installed prior to 1 January 2016 and on or after 1 January 2010, on ships other than passenger ships operating in MARPOL Annex IV special areas and intending to discharge treated sewage effluent into the sea, should comply with resolution MEPC.159(55).

1.2.5 Sewage treatment plants installed prior to 1 January 2010 on ships other than passenger ships operating in MARPOL Annex IV special areas and intending to discharge treated sewage effluent into the sea, should comply with resolution MEPC.2(VI).

1.3 Purpose

1.3.1 These Guidelines and specifications address the design, installation, performance and testing of sewage treatment plants required by regulations 9.1.1 and 9.2.1 of MARPOL Annex IV.

1.3.2 The purpose of these Guidelines and specifications is:

.1 to provide a uniform interpretation of the requirements of regulations 9.1.1 and 9.2.1 of MARPOL Annex IV;

.2 to assist Administrations in determining appropriate design, construction and operational testing and performance parameters for sewage treatment plants when such equipment is fitted in ships flying the flag of their State; and

.3 to provide guidance for installation requirements.

2 DEFINITIONS

2.1 *Annex IV* – the revised Annex IV of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 and 1997 Protocols (MARPOL), as amended by resolutions MEPC.115(51) and MEPC.200(62).

2.2 *Convention* – the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 and 1997 Protocols (MARPOL).

2.3 Dilution (Q_d) – is dilution water, grey water, process water, and/or seawater introduced to the sewage treatment plant after the influent sample point and after the influent flow measurement device, see figure 1.

2.4 *Effluent (Q_e)* – treated wastewater produced by the sewage treatment plant, see figure 1.

2.5 Flush water – transport medium used to carry sewage or other wastes from toilets or urinals to the treatment system.

2.6 *Geometric mean* – the *n*th root of the product of *n* numbers.

2.7 *Grey water* – is drainage from dishwater, galley sink, shower, laundry, bath and washbasin drains and does not include drainage from toilets, urinals, hospitals, and animal spaces, as defined in regulation 1.3 of MARPOL Annex IV and does not include drainage from cargo spaces.

2.8 *Hydraulic loading* – system design flow rate of waste water (Q_i) into the sewage treatment plant.

2.9 *Influent (Q_i)* – Liquid containing sewage, grey water or other liquid streams, to be processed by the treatment plant, see figure 1.

2.10 *Sample point* – A point for manual collection of a representative sample of influent and effluent without opening tanks, voids or vents, see figure 1.

2.11 *Testing on board* – testing, for the purpose of type approval, carried out on a sewage treatment plant installed on a ship.

2.12 *Testing ashore* – testing ashore, for the purpose of type approval, carried out on a sewage treatment plant.

2.13 *Thermotolerant coliforms* – the group of coliform bacteria which produce gas from lactose in 48 hours at 44.5°C. These organisms are sometimes referred to as "faecal coliforms"; however, the term "thermotolerant coliforms" is now accepted as more appropriate, since not all of these organisms are of faecal origin.

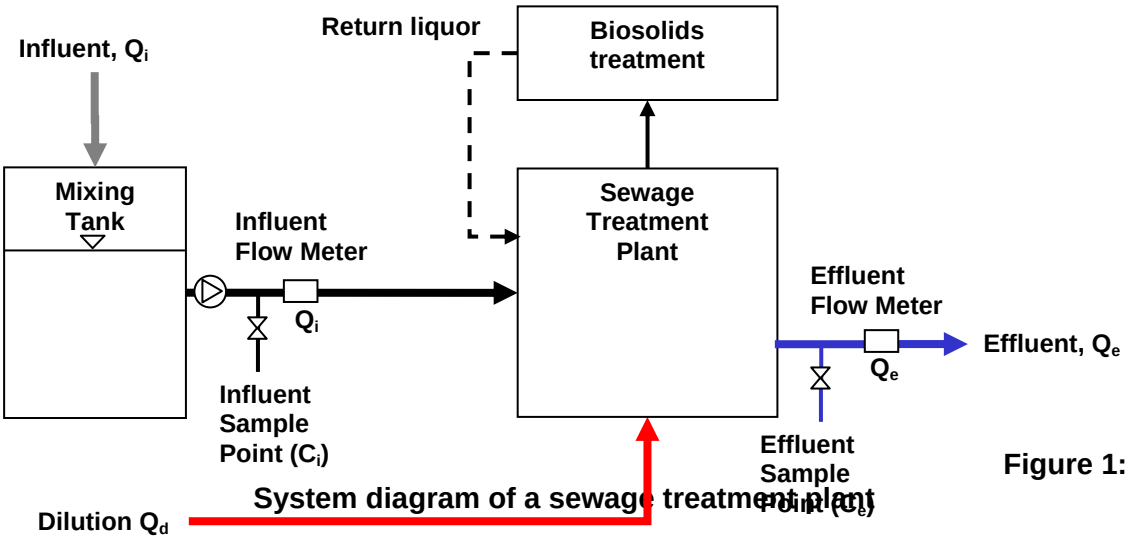

Figure 1: System diagram of a sewage treatment plant

3 GENERAL

3.1 An approved sewage treatment plant should meet the technical specifications in section 4 and the tests outlined in these Guidelines. However, section 4.2 on nitrogen and phosphorous removal applies to passenger ships operating within a special area intending to discharge treated sewage effluent into the sea. It should also be noted that, when ships are operating approved sewage treatment plants, MARPOL Annex IV also provides that the effluent shall not produce visible floating solids or cause discolouration of the surrounding water.

3.2 In meeting the effluent standards in section 4, an approved sewage treatment plant should not rely solely on dilution of wastewater. Where amounts of dilution are deemed essential to a treatment process, the effluent standards in section 4 having concentration limits (mg/l) should be adjusted proportionally using dilution compensation factor Q_i/Q_e to take account of dilution Q_d. In addition, for effluent standards in section 4 having a percentage reduction, the geometric mean of the daily percentage reduction values should be calculated using the accumulated flow Q_i and Q_e over each 24-hour test day, in terms of l/day, multiplied by the geometric mean of the corresponding concentration C_i and C_e for the same 24-hour test day, in terms of mg/l.

The overall percentage reduction over the entire test period n is:

$$PR = \sqrt[n]{PR_1 \cdot PR_2 \cdots PR_n} \cdot 100 ,$$

where PR_n is the daily removal value:

$$PR_n = \frac{\left(\frac{(Q_i)_n \cdot \sqrt[s]{(C_i)_1 \cdot (C_i)_2 \cdots (C_i)_s}}{1000} \right)_n - \left(\frac{(Q_e)_n \cdot \sqrt[s]{(C_e)_1 \cdot (C_e)_2 \cdots (C_e)_s}}{1000} \right)_n}{\left(\frac{(Q_i)_n \cdot \sqrt[s]{(C_i)_1 \cdot (C_i)_2 \cdots (C_i)_s}}{1000} \right)_n} ,$$

where:
n represents the test day number; and
s represents the sample number collected on test day n

3.3 It is acknowledged that the performance of sewage treatment plants may vary considerably when the system is tested ashore under simulated shipboard conditions or on board a ship under actual operating conditions. Where testing ashore demonstrates that a system complies with the standards, but subsequent onboard testing does not meet the standards, the Administration should determine the reason and take it into account when deciding whether to type approve the plant.

3.4 It is recognized that Administrations may wish to modify the specific details outlined in these Guidelines to take account of very large, very small or unique sewage treatment plants.

4 TECHNICAL SPECIFICATION

4.1 For the purpose of regulations 9.1.1 and 9.2.1 of MARPOL Annex IV, a sewage treatment plant should meet the following effluent standards when tested for its Certificate of Type Approval by the Administration:

.1 Thermotolerant Coliform Standard

The geometric mean of the thermotolerant coliform count of the samples of effluent taken during the test period should not exceed 100 thermotolerant coliforms/100 ml as determined by membrane filter, multiple tube fermentation or an equivalent analytical procedure.

.2 Total Suspended Solids (TSS) Standard

.1 The geometric mean of the total suspended solids content of the samples of effluent taken during the test period should not exceed 35 Qi/Qe mg/l.

.2 Where the sewage treatment plant is tested on board ship, the maximum total suspended solids content of the samples of effluent taken during the test period may be adjusted to take account of the total suspended solid content of the flushing water. In allowing this adjustment in maximum TSS, Administrations should ensure sufficient tests of TSS are taken of the flushing water throughout the testing period to establish an accurate geometric mean to be used as the adjustment figure (defined as *x*). In no cases should the maximum allowed TSS be greater than (35 plus *x*) Qi/Qe mg/l.

Method of testing should be by:

.1 filtration of representative sample through a 0.45 µm filter membrane, drying at 105°C and weighing; or

.2 centrifuging of a representative sample (for at least five minutes with mean acceleration of 2,800-3,200 g), drying at least 105°C and weighing; or

.3 other internationally accepted equivalent test standard.

.3 Biochemical oxygen demand without nitrification and chemical oxygen demand

Administrations should ensure the sewage treatment plant is designed to reduce both soluble and insoluble organic substances to meet the requirement that, the geometric mean of 5-day biochemical oxygen demand without nitrification (BOD_5 without nitrification) of the samples of effluent taken during the test period does not exceed 25 Qi/Qe mg/l and the chemical oxygen demand (COD) does not exceed 125 Qi/Qe mg/l. The test method standard should be ISO 5815 1:2003 for BOD5 without nitrification and ISO 15705:2002 for COD, or other internationally accepted equivalent test standards.

.4 pH

The pH of the samples of effluent taken during the test period should be between 6 and 8.5.

.5 Zero or non-detected values

For thermotolerant coliforms zero values should be replaced with a value of 1 thermotolerant coliform/100 ml to allow the calculation of the geometric mean. For total suspended solids, biochemical oxygen demand without nitrification and chemical oxygen demand values below the limit of detection should be replaced with one half the limit of detection to allow the calculation of the geometric mean.

4.2 For the purpose of regulation 9.2.1 of MARPOL Annex IV, a sewage treatment plant installed on a passenger ship intending to discharge sewage effluent in special areas should additionally meet the following effluent standards when tested for its Certificate of Type Approval by the Administration:

.1 Nitrogen and phosphorus removal standard

The geometric mean of the total nitrogen and phosphorus content of the samples of effluent taken during the test period should not exceed:

.1 total nitrogen[1]: 20 Qi/Qe mg/l or at least 70 per cent reduction[2];

.2 total phosphorus: 1.0 Qi/Qe mg/l or at least 80 per cent reduction[3].

.2 Method of testing should be:

.1 ISO 29441:2010 for total nitrogen; and

.2 ISO 6878:2004 for total phosphorus; or

.3 other internationally accepted equivalent test standard.

4.3 Where the sewage treatment plant has been tested ashore, the initial survey should include installation and commissioning of the sewage treatment plant.

4.4 A review of the Nitrogen and Phosphorus removal standard set forth in paragraph 4.2.1 of the Guidelines should be undertaken by the Committee at its sixty-seventh session (second part of year 2014) to determine that the required removal standards for Nitrogen and Phosphorus are met by type approved sewage treatment plants, or such systems in development, taking into account the results of on board and ashore testing in accordance with section 5 of the 2012 Guidelines. In order to accomplish this, the Committee decided to establish a review group at MEPC 67.

4.5 The Committee, based on the information provided by the review group, should decide whether it is possible for ships to comply with the standard in paragraph 4.2.1with the dates set out in paragraph 1.2.3. If a decision is taken that it is not possible or practicable for ships to comply, then the Guidelines should be amended accordingly.

5 TESTING CONSIDERATIONS

5.1 Testing of the operational performance of a sewage treatment plant should be conducted in accordance with the following subparagraphs. Unless otherwise noted, the subparagraphs apply to testing both on board and ashore.

5.2 Raw sewage quality

5.2.1 Sewage treatment plants tested ashore – the influent should be fresh sewage consisting of faecal matter, urine, toilet paper and flush water to which, for testing purposes primary sewage sludge has been added as necessary to attain a minimum total suspended solids concentration appropriate for the number of persons and hydraulic loading for which the sewage treatment plant will be certified. The testing should take into account the type of system (for example, vacuum or gravity toilets) and any water or grey water that may be

[1] Total nitrogen means the sum of total Kjeldahl nitrogen (organic and ammoniacal nitrogen) nitrate-nitrogen and nitrite-nitrogen.

[2] Reduction in relation to the load of the influent.

[3] Reduction in relation to the load of the influent.

added for flushing to the sewage before treatment. In any case the influent concentration of total suspended solids should be no less than 500 mg/l.

5.2.2 Sewage treatment plants tested on board – the influent may consist of the sewage generated under normal operational conditions. In any case the average influent concentration of total suspended solids should be not less than 500 mg/l.

5.2.3 Influent should be assessed without the contribution of any return liquors, wash water, or recirculates, etc., generated from the sewage treatment plant.

5.3 Duration and timing of test

The duration of the test period should be a minimum of 10 days and should be timed to capture normal operational conditions, taking into account the type of system and the number of persons and hydraulic loading for which the sewage treatment plant will be type approved. Noting that the systems need a period of stabilization, the test should commence after steady-state conditions have been reached by the sewage treatment plant under test.

5.4 Loading factors

5.4.1 During the test period, the sewage treatment plant should be tested under conditions of minimum, average and maximum volumetric loadings:

.1 for testing ashore, these loadings should be as laid down in the manufacturer's specifications. Figure 2 shows suggested timings for sampling each loading factor; and

.2 for testing on board, minimum loading should represent that generated by the number of persons on the ship when it is alongside in port, and average and maximum loadings should represent those generated by the number of persons on the ship at sea and should take account of meal times and watch rotations.

5.4.2 The Administration should undertake to assess the capability of the sewage treatment plant to produce an effluent in accordance with the standards prescribed by section 4 following minimum, average and maximum volumetric loadings. The range of conditions under which the effluent standards were met should be recorded on the Certificate of Type Approval. The form of the Certificate of Type Approval and appendix is set out in the annex to these Guidelines.

5.5 Sampling methods and frequency

5.5.1 Administrations should ensure that the sewage treatment plant is installed in a manner which facilitates the collection of samples, see figure 1. Sampling should be carried out in a manner and at a frequency which is representative of the effluent quality. Figure 2 provides a suggested frequency for sampling, however, the frequency should take account of the residence time of the influent in the sewage treatment plant. A minimum of 40 effluent samples should be collected to allow a statistical analysis of the testing data (e.g. geometric mean, maximum, minimum and variance).

5.5.2 Influent sample point should be upstream of any return liquors, wash water, or recirculates generated from the sewage treatment plant. Where such a sample point is not readily available on ships, the flows and concentrations of these return liquors, wash water, or

recirculates generated from the sewage treatment plant should be measured, so that the load can be taken away from the load of influent.

5.5.3 An influent sample should be taken and analysed for every effluent sample taken and the results recorded to ensure compliance with section 4. If possible, additional influent and effluent samples should be taken to allow for a margin of error. Samples should be appropriately preserved prior to analysis particularly if there is to be a significant delay between collection and analysis or during times of high ambient temperature.

5.5.4 Any disinfectant residual in samples should be neutralized when the sample is collected to prevent unrealistic bacteria kill or chemical oxidation of organic matter by the disinfectant brought about by artificially extended contact times. Chlorine (if used) concentration and pH should be measured prior to neutralization.

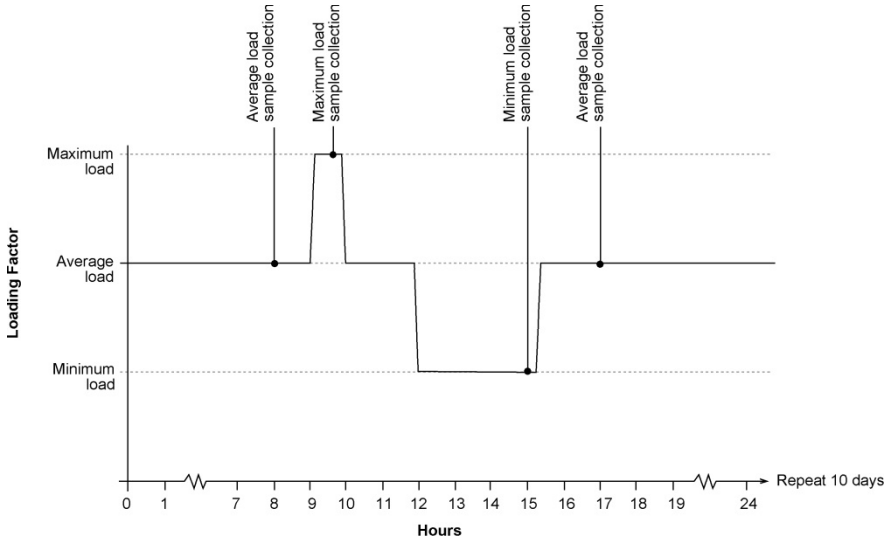

Figure 2: Suggested hydraulic loading factors and sampling frequency for testing sewage treatment plants. May be modified as necessary to take account of characteristics of individual sewage treatment plants

5.6 Analytical testing of effluent

The Administration should give consideration to the recording of other parameters in addition to those required (thermotolerant coliforms, total suspended solids, BOD_5 without nitrification, COD, pH and residual chlorine) with a view to future technological development. These parameters include total solids, volatile solids, settleable solids, volatile suspended solids, turbidity, total organic carbon, total coliforms and faecal streptococci.

5.7 Disinfectant residual

The potential adverse environmental effects of many disinfectant residuals and by-products, such as those associated with the use of chlorine or its compounds, are well recognized. It is, therefore, recommended that Administrations encourage the use of ozone, ultraviolet irradiation or any other disinfectants which minimize adverse environmental effects, whilst pursuing the thermotolerant coliform standard. When chlorine is used as a disinfectant, the Administration should be satisfied that the best technical practice is used to keep the disinfectant residual in the effluent below 0.5 mg/l.

5.8 Scaling considerations

Only full-scale marine sewage treatment plants should be accepted for testing purposes. The Administration may certify a range of the manufacturer's equipment sizes employing the same principles and technology, but due consideration should be given to limitations on performance which might arise from scaling up or scaling down. In the case of very large, very small or unique sewage treatment plants, certification may be based on results of prototype tests. Where possible, confirmatory tests should be performed on the final installation of such sewage treatment plants.

5.9 Environmental testing of the sewage treatment plant

5.9.1 The Administration should ensure that the sewage treatment plant can operate under conditions of tilt consistent with internationally acceptable shipboard practice up to 22.5º in any plane from the normal operating position.

5.9.2 Tests for certification should be carried out over the range of salinity and the range of temperatures for ambient air and flush water specified by the manufacturer, and the Administration should be satisfied that such specifications are adequate for the conditions under which the equipment must operate.

5.9.3 Control and sensor components should be subjected to environmental testing to verify their suitability for marine use. The Test Specifications section in part 3 of the annex to the Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships (resolution MEPC.107(49)) provides guidance in this respect.

5.9.4 Any limitation on the conditions of operation should be recorded on the certificate.

5.9.5 The Administration should also consider requiring the manufacturer to include in the operating and maintenance manuals, a list of chemicals and materials suitable for use in the operation of the sewage treatment plant.

5.10 Other considerations

5.10.1 The type and model of the sewage treatment plant and the name of the manufacturer should be noted by means of a durable label firmly affixed directly to the sewage treatment plant. This label should include the date of manufacture and any operational or installation limits considered necessary by the manufacturer or the Administration.

5.10.2 Administrations should examine the manufacturer's installation, operating and maintenance manuals for adequacy and completeness. The ship should have on board at all times a manual detailing the operational and maintenance procedures for the sewage treatment plant, including safety information about the chemicals and materials actually used in the operation of the sewage treatment plant.

5.10.3 Qualifications of testing facilities should be carefully examined by the Administration as a prerequisite to their participation in the testing programme. Every attempt should be made to assure uniformity among the various facilities.

6 RENEWAL AND ADDITIONAL SURVEYS

Administrations should endeavour to ensure, when conducting renewal or additional surveys in accordance with regulations 4.1.2 and 4.1.3 of MARPOL Annex IV, that the sewage treatment plant continues to perform in accordance with the conditions outlined in regulation 4.1.1 of MARPOL Annex IV.

7 FAMILIARIZATION OF SHIP PERSONNEL IN THE USE OF THE SEWAGE TREATMENT PLANT

Recognizing that the appropriate regulations relating to familiarization are contained within the Ships Safety Management Systems under the International Safety Management Code, Administrations are reminded that ship staff training should include familiarization in the operation and maintenance of the sewage treatment plant.

8 MAINTENANCE

Routine maintenance of the system should be clearly defined by the manufacturer in the associated operating and maintenance manuals. All routine and repair maintenance should be recorded.

ANNEX

FORM OF CERTIFICATE OF TYPE APPROVAL
FOR SEWAGE TREATMENT PLANTS AND APPENDIX

BADGE OR CIPHER

NAME OF ADMINISTRATION

CERTIFICATE OF TYPE APPROVAL
FOR SEWAGE TREATMENT PLANTS

This is to certify that the sewage treatment plant, type ..... , having a designed hydraulic loading of ..... cubic metres per day, (m^3/day), an organic loading of ..... kg per day biochemical oxygen demand without nitrification (BOD_5 without nitrification) and of the design shown on drawings Nos. .....
manufactured by .....
has been examined and satisfactorily tested in accordance with the International Maritime Organization resolution MEPC.227(64) to meet the operational requirements referred to in regulations 9.1.1 and 9.2.1 of MARPOL Annex IV of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 and 1997 Protocols (as amended by resolutions MEPC.115(51) and MEPC.200(62)).

The tests on the sewage treatment plant were carried out
ashore at* .....
on board at* .....
and completed on .....

The sewage treatment plant was tested and produced an effluent which, on analysis, produces:

.1 a geometric mean of no more than 100 thermotolerant coliforms/100 ml;
.2 a geometric mean of total suspended solids of 35 Qi/Qe mg/l if tested ashore or the maximum total suspended solids not exceeding (35 plus *x) Qi/Qe* mg/l for the ambient water used for flushing purposes if tested on board;
.3 a geometric mean of 5-day biochemical oxygen demand without nitrification (BOD_5 without nitrification) of no more than 25 Qi/Qe mg/l;
.4 a geometric mean of chemical oxygen demand (COD) of no more than 125 Qi/Qe mg/l;
.5 pH between 6 and 8.5;
.6 a geometric mean of total nitrogen of no more than 20 Qi/Qe mg/l or at least 70 per cent reduction; and
.7 a geometric mean of total phosphorus of no more than 1.0 Qi/Qe mg/l or at least 80 per cent reduction**.

The Administration confirms that the sewage treatment plant can operate at angles of inclination of 22.5° in any plane from the normal operating position.

Details of the tests and the results obtained are shown on the appendix to this Certificate.

* Delete as appropriate.

** Delete for ships other than passenger ships intending to discharge sewage effluent in Special Areas.

A plate or durable label containing data of the manufacturer's name, type and serial numbers, hydraulic loading and date of manufacture should be fitted on each sewage treatment plant.

A copy of this certificate should be carried on board any ship equipped with the above described sewage treatment plant.

Official stamp Signed
.....

Administration of …….....

Dated this …….....… day of..…….....……..… 20…….....

APPENDIX TO
CERTIFICATE OF TYPE APPROVAL FOR SEWAGE TREATMENT PLANTS

BADGE OR CIPHER

Test results and details of tests conducted on samples from the sewage treatment plant in accordance with resolution MEPC.227(64):

Sewage treatment plant, Type .....
Manufactured by .....
Organization conducting the test .....
Designed hydraulic loading ....m^3/day
Designed organic loading ..... kg/day BOD

Number of effluent samples tested .....
Number of influent samples tested .....
Total suspended solids influent quality ....mg/l
Total nitrogen influent quality.....mg/las nitrogen*
Total phosphorus influent quality.....mg/l as phosphorus*

BOD_5 without nitrification influent quality.....mg/l
Maximum hydraulic loading ..... m^3/day
Minimum hydraulic loading ..... m^3/day
Average hydraulic loading (Qi)..... m^3/day
Effluent flow (Qe)..... m^3/day
Dilution compensation factor (Qi/Qe)…….
Geometric mean of total suspended solids .....mg/l
Geometric mean of the thermotolerant coliform count..... coliforms/100 ml
Geometric mean of BOD_5 without nitrification..... mg/l
Geometric mean of COD ……mg/l
Geometric mean of total nitrogen .....mg/l* or %*
Geometric mean of total phosphorus.....mg/l* or %*
Maximum pH: ……
Minimum pH:……..
Type of disinfectant used .....
If Chlorine - residual Chlorine:
Maximum ..... mg/l
Minimum ..... mg/l
Geometric Mean ..... mg/l

Was the sewage treatment plant tested with:
Fresh water flushing? ..... Yes/No*
Salt water flushing? ..... Yes/No*
Fresh and salt water flushing? ..... Yes/No*
Grey water added? .....Yes – proportion: /No*

Was the sewage treatment plant tested against the environmental conditions specified in section 5.9 of resolution MEPC.227(64):

* Delete as appropriate.

Temperature .... Yes/No*
Humidity .... Yes/No*
Inclination .... Yes/No*
Vibration .... Yes/No*
Reliability of Electrical and Electronic Equipment .... Yes/No*

Limitations and the conditions of operation are imposed:

Salinity ....
Temperature ....
Humidity ....
Inclination ....
Vibration ....

Results of other parameters tested ....

Official stamp Signed
....

Administration of …………………………………….........

Dated this ……..........…....… day of..……...…...….… 20…....……

* Delete as appropriate.

***

ANNEX 23

DRAFT AMENDMENTS TO MARPOL ANNEXES I AND II
(To make the RO Code mandatory)

Amendments to MARPOL Annex I

Regulation 6

The existing text of last sentence of subparagraph 3.1 is replaced by the following:

"Such organizations shall be authorized by the Administration in accordance with the provisions of the present annex and with the Code for recognized organizations (RO Code) adopted by the Organization by resolution [MEPC…], provided that:

.1 the provisions of part I and part II of the RO Code are mandatory and shall be fully complied with;

.2 the related guidance contained in part III of the RO Code should be taken into account to the greatest degree possible in order to achieve a more uniform implementation of the RO Code;

.3 amendments to part I and part II of the RO Code shall be adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to this annex; and

.4 part III of the RO Code is non-mandatory and shall be amended by the Marine Environment Protection Committee and the Maritime Safety Committee in accordance with their rules of procedure provided that any amendments adopted by the MSC and the MEPC will be identical and will come into effect at the same time."

Amendments to MARPOL Annex II

Regulation 8

The existing text of subparagraph 2.2 is replaced by the following:

"Organizations referred to in paragraph 2.1 of this regulation shall be authorized by the Administration in accordance with the provisions of the present annex and with the Code for recognized organizations (RO Code) adopted by the Organization by resolution [MEPC…], provided that:

.1 the provisions of part I and part II of the RO Code are mandatory and shall be fully complied with;

.2 the related guidance contained in part III of the RO Code should be taken into account to the greatest degree possible in order to achieve a more uniform implementation of the RO Code;

.3 amendments to part I and part II of the RO Code shall be adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to this annex; and

.4 part III of the RO Code is non-mandatory and shall be amended by the Marine Environment Protection Committee and the Maritime Safety Committee in accordance with their rules of procedure provided that any amendments adopted by the MSC and the MEPC will be identical and will come into effect at the same time."

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ANNEX 24

STATEMENT BY THE DELEGATION OF BRAZIL ON THE OUTCOME OF RIO+20

Thank you, Mr. Chairman.

This delegation would like to thank the Secretariat for their report on the outcome of the United Nations Conference on Sustainable Development – Rio+20, which took place in Rio de Janeiro, on June 20 to 22.

Brazil had the satisfaction to host the Rio+20 Conference, which achieved a successful outcome with the adoption of the document *The Future We Want* by all members of the United Nations.

The document *The Future We Want* provides important elements of particular relevance for our work at IMO. Many elements were highlighted in the report we have before us. Many elements, however, were left out, in particular, the reaffirmation of the principle of common but differentiated responsibilities, enshrined in the 1992 Rio Declaration.

It is important that IMO contributes to the implementation of the Rio outcome, by taking concrete actions in order to ensure the sustainable development of the shipping sector.

Brazil is fully engaged in the debate of approaches under the Organization in the area of sustainable development. This delegation highlights that this work must be fully country-driven and inclusive. The Secretariat should support this process, as to be decided by Parties.

We look forward to this debate under IMO.

Thank you.

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ANNEX 25

ITEMS IN THE BIENNIAL AND POST-BIENNIAL AGENDAS OF THE DE, DSC, FP, COMSAR, NAV, SLF AND STW SUB-COMMITEES RELATING TO ENVIRONMENTAL ISSUES

SUB-COMMITTEE ON DANGEROUS GOODS, SOLID CARGOES AND CONTAINERS (DSC)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
5.2.3.3	**Development of amendments to the IMSBC Code, including evaluation of properties of solid bulk cargoes**		DSC		Continuous
5.2.3.8	Amendments to MARPOL Annex III, as required	MEPC	DSC		Continuous
12.3.1.3	**Consideration of reports on incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas**	MSC MEPC	DSC		Continuous

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
5.2.1.17	**Development of a mandatory Code for ships operating in polar waters**	MSC MEPC	DE	COMSAR FP, SLF NAV, STW	2014

* Items printed in bold have been selected for the provisional agenda of DSC 18.

* Items printed in bold have been selected for the provisional agenda of COMSAR 17.

SUB-COMMITTEE ON SAFETY OF NAVIGATION (NAV)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
5.2.1.17	Development of a mandatory Code for ships operating in polar waters	MSC MEPC	DE	COMSAR FP, SLF NAV, STW	2014

SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT (DE)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
1.1.2.2	**Cooperation with IACS consideration of unified interpretations**	MSC MEPC		DE	Continuous
2.0.1.10	**Revision of the Standard specification for shipboard incinerators (resolution MEPC.76(40))**	MEPC	DE		2013
5.2.1.17	**Development of a mandatory Code for ships operating in polar waters**	MSC MEPC	DE	COMSAR FP, SLF NAV, STW	2014
7.1.2.3	**Provision for the reduction of noise from commercial shipping and its adverse impacts on marine life**	MEPC		DE	2013

* Items printed in bold have been selected for the provisional agenda of NAV 59.

* Items printed in bold have been selected for the provisional agenda of DE 57.

SUB-COMMITTEE ON STABILITY AND LOAD LINES AND ON FISHING VESSELS SAFETY (SLF)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
5.2.1.17	**Development of a mandatory Code for ships operating in polar waters**	MSC MEPC	DE	COMSAR FP, SLF NAV, STW	2014

SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING (STW)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
5.2.1.17	**Development of a mandatory Code for ships operating in polar waters**	MSC MEPC	DE	COMSAR FP, SLF NAV, STW	2014
5.4.1.1	**Role of the human element: Guidelines on how to present relevant information to seafarers**	MSC MEPC	STW		2013
12.2.1.3	**Role of the human element: Enhancing the efficiency and user-friendliness of ISM Code**	MSC MEPC	STW		2013

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* Items printed in bold have been selected for the provisional agenda of SLF 55.

* Items printed in bold have been selected for the provisional agenda of STW 44.

ANNEX 26

BIENNIAL AGENDA FOR THE BLG SUB-COMMITTEE AND PROVISIONAL AGENDA FOR BLG 17

SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
1.1.2.2	**Consideration of IACS unified interpretations**	MSC MEPC		BLG	Continuous
2.0.1.8	**Additional guidelines for implementation of the BWM Convention, including port State control**	MEPC	BLG FSI		2013
2.0.1.9	**Guidelines for replacement engines not required to meet the Tier III limit (MARPOL Annex VI)**	MEPC	BLG		2013
2.0.1.11	**Other relevant guidelines pertaining to equivalents set forth in regulation 4 of MARPOL Annex VI and not covered by other guidelines**	MEPC	BLG		2013
2.0.1.12	**Guidelines called for under paragraph 2.2.5.6 of the NO_x Technical Code**	MEPC	BLG		2013
5.2.1.3	**Development of international code of safety for ships using gases or other low-flashpoint fuels**	MSC	BLG	DE	2013
5.2.1.4	**Development of a revised IGC Code**	MSC	BLG	FP, SLF, DE, STW	2013
7.1.2.5	**Production of a manual entitled "Ballast Water Management – How to do it"**	MEPC	BLG		2013

* Items printed in bold have been selected for the provisional agenda of BLG 17. (Shaded texts are updates based on annex 31 (MSC 90/28/Add.1) and annex 34 (MEPC 63/23/Add.1)).

SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
~~7.1.2.14~~*** 7.1.2.20	**Development of international measures for minimizing the transfer of invasive aquatic species through biofouling of ships**	MSC MEPC	BLG	DE	2013
7.1.2.15	**Development of a Code for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels**	MSC MEPC	BLG	DE	2013
7.2.2.3	**Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments**	MEPC	BLG		Continuous
7.3.1.1	**Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code**	MEPC	BLG		2013
7.3.2.2	**Keep under review IMO measures and contributions to international climate mitigation initiatives and agreements (including CO_2 sequestration and ocean fertilization)**	MEPC		BLG	Annual
12.1.2.1	**Casualty analysis**	MSC	FSI	BLG	Continuous
13.0.3.1	**Improved and new technologies approved for ballast water management systems and reduction of atmospheric pollution**	MSC	BLG		Continuous

*** In MSC 90/28/Add.1, annex 29, it was stated that output number refers to the previous HLA as this output has not been included in this biennium's HLA (resolution A.1038(27)). C 108 will assign a new number for this output. MSC 91/19 provided the new number 7.1.2.20 for this output (MSC 91/19, annex 1).

SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG) – 17TH SESSION

Opening of the session

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments

4 Additional guidelines for implementation of the BWM Convention, including port State control

5 Production of a manual entitled "Ballast Water Management – How to do it"

6 Improved and new technologies approved for ballast water management systems and reduction of atmospheric pollution

7 Development of international measures for minimizing the transfer of invasive aquatic species through biofouling of ships

8 Development of international code of safety for ships using gases or other low-flashpoint fuels

9 Development of a revised IGC Code

10 Consideration of the impact on the Arctic of emissions of black carbon from international shipping

11 Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code

.1 Guidelines for replacement engines not required to meet the Tier III limit (MARPOL Annex VI)

.2 Other relevant guidelines pertaining to equivalents set forth in regulation 4 of MARPOL Annex VI and not covered by other guidelines

.3 Guidelines called for under paragraph 2.2.5.6 of the NO_x Technical Code

12 Development of a Code for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels

13 Consideration of IACS unified interpretations

14 Casualty analysis

15 Biennial agenda and provisional agenda for BLG 18

16 Election of Chairman and Vice-Chairman for 2014

17 Any other business

18 Report to the Committees

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ANNEX 27

BIENNIAL AGENDA FOR THE FSI SUB-COMMITTEE AND PROVISIONAL AGENDA FOR FSI 21

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
1.1.2.1	**Preparation and holding of the third meeting of the Joint FAO/IMO Working Group on IUU Fishing and related matters, including the adoption of a new treaty to facilitate the implementation of the technical provisions to the 1993 Torremolinos Protocol**	MSC MEPC	FSI SLF		2013
1.1.2.2	**Cooperation with IACS: consideration of unified interpretations**	MSC MEPC		FSI	Continuous
1.1.2.5	**Development of PSC guidelines on seafarers' hours of rest taking into account the Maritime Labour Convention, 2006**	MSC	FSI		2013
1.1.2.23	**Development of PSC guidelines in the context of the Maritime Labour Convention, 2006**	MSC	FSI		Continuous
1.1.2.24	**Preparation and holding of the third meeting of the Joint FAO/IMO ad hoc Working Group on IUU Fishing and related matters (JWG)**	MSC	FSI	SLF	2013
1.1.2.26	**Policy input/guidance to PSC regimes: related to IMO developments**	MSC MEPC	FSI		Continuous

* Items printed in bold have been selected for the provisional agenda of FSI 21. (Shaded texts are updates based on annex 31 (MSC 90/28/Add.1) and annex 34 (MEPC 63/23/Add.1)).

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
2.0.1.8	**Additional guidelines for implementation of the BWM Convention, including port State control**	MEPC	BLG FSI		2013
2.0.1.13	Development of a Code for recognized organizations	MSC MEPC	FSI		2012
2.0.1.19	**Comprehensive review of issues related to the responsibilities of Governments and development of measures to encourage flag State compliance**	MSC MEPC		FSI	2013
2.0.1.21	**Summary reports and analyses of mandatory reports under MARPOL**	MEPC	SEC	FSI	Continuous
2.0.1.22	GISIS module on mandatory and non-mandatory requirements	Committees	SEC	FSI	Annual
2.0.2.1	**Review of the Code for implementation of mandatory IMO instruments and consolidated audit summary reports, adoption of the new IMO Instruments Implementation (III) Code and making the III Code and auditing mandatory**	ASSEMBLY MSC MEPC		MSC MEPC FSI	2013
4.0.2.1	Guidance on the establishment or further development of information systems (databases, websites, etc.) as part of GISIS	Committees		FSI	Continuous
4.0.2.2	Development and management of mandatory IMO number schemes	MSC		SEC	Continuous
4.0.2.3	Protocols on data exchange with other international, regional and national data providers	COMMITTEES	FSI	SEC	Continuous
5.1.2.1	Making the provisions of MSC.1/Circ.1206/Rev.1 mandatory	MSC	DE	FSI, NAV STW	2013
5.1.2.2	**Development of measures to protect the safety of persons rescued at sea**	MSC FAL	COMSAR	FSI	2013

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
5.2.1.7	**Review of general cargo ship safety**	MSC	FSI		2013
5.2.1.18	Development of a non-mandatory instrument on regulations for non-convention ships	MSC	FSI		2013
5.2.1.19	**Review and update of the Survey Guidelines under the Harmonized System of Survey and Certification and the annexes to the Code for the Implementation of Mandatory IMO Instruments**	MSC MEPC	FSI		Continuous
5.3.1.2	Review of procedures for PSC	MSC MEPC	FSI		2013
5.3.1.4	**Promote the harmonization of port State control activities and collect PSC data**	MSC MEPC	FSI		Continuous
5.3.1.5	Methodology for the in-depth analysis of annual PSC reports	MSC MEPC	FSI		2013
5.3.1.6	Risk assessment comparison between marine casualties and incidents and PSC inspections	MSC MEPC	FSI		Continuous
7.1.2.6	Measures to promote the AFS Convention	MEPC		FSI	2013
7.1.3.1	Reports on inadequacy of port reception facilities	MEPC	FSI		Annual
7.1.3.2	Follow-up to the implementation of the Action Plan on port reception facilities	MEPC	FSI		2013
12.1.2.1	**Collection and analysis of casualty and PSC data to identify trends and develop knowledge and risk-based recommendations**	MSC	FSI		Continuous
12.3.1.1	**Guidance on the development of GISIS and on access to information**	MSC MEPC	FSI		Continuous

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI)*					
PLANNED OUTPUTS 2012-2013 (resolution A.1038(27))		Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Target completion year
Number	Description				
12.3.1.2	**PSC data collected and disseminated in cooperation with PSC regimes**	MSC	FSI		Annual
12.3.1.3	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	MSC/MEPC	DSC	FSI	Continuous
	Guidance for the Secretariat on the development of GISIS and on access of information	MEPC	FSI		Continuous

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI) – 21ST SESSION

Opening of the session

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Responsibilities of Governments and measures to encourage flag State compliance

4 Mandatory reports under MARPOL

5 Casualty statistics and investigations

6 Harmonization of port State control activities

7 PSC Guidelines on seafarers' hours of rest and PSC guidelines in relation to the Maritime Labour Convention, 2006

8 Development of guidelines on port State control under the 2004 BWM Convention

9 Comprehensive analysis of difficulties encountered in the implementation of IMO instruments

10 Review of the Survey Guidelines under the HSSC and the annexes to the Code for the Implementation of Mandatory IMO Instruments

11 Cooperation with IACS: consideration of Unified Interpretations

12 Measures to protect the safety of persons rescued at sea

13 Illegal unregulated and unreported (IUU) fishing and related matters

14 Review of general cargo ship safety

15 Biennial agenda and provisional agenda for FSI 22

16 Election of Chairman and Vice-Chairman for 2014

17 Any other business

18 Report to the Committees

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ANNEX 28

REPORT ON THE STATUS OF PLANNED OUTPUTS FOR THE MEPC FOR THE 2012-2013 BIENNIUM[15]

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
1.1.2.1	Cooperation with FAO: preparation and holding of the third meeting of the Joint IMO/FAO Working Group on IUU fishing and related matters, including the adoption of a new treaty to facilitate the implementation of the technical provisions to the 1993 Torremolinos Protocol	2013	MSC/MEPC	FSI/SLF		In progress		

[15] Shaded texts are proposed inclusions based on outcome of MSC 90 (MSC 90/28/Add.1, annexes 31 and 33).

Notes:

[a] When individual output contains multiple deliverables, the format should be to report on each individual deliverables.

[b] The target completion year should not be indicated by the number of sessions. It should be specified by year, or indicate that the item is continuous.

[c] The entries under the "Status of output" columns are categorized as follows:
- "completed" if it signifies that the output in question has been duly finalized;
- "in progress" if it signifies that the expected output has been progressed, often with interim outputs (for example, draft amendments or guidelines) which are expected to be approved later in the same biennium;
- "ongoing" if it signifies that the output relate to work of the respective IMO organs that is a permanent or continuous tasks; and
- "postponed" if it signifies that the respective IMO organ has decided to defer the production of relevant outputs to another time (for example, until the receipt of corresponding submissions).

[d] If the output consists of the adoption/approval of an instrument (e.g. resolution, circular, etc.), that instrument should be clearly referenced in this column.

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
1.1.2.2	Cooperation with IACS: consideration of unified interpretations	Continuous	MSC/MEPC	All sub-committees		Ongoing		
1.1.2.4	Cooperation with IAEA: formalized emergency arrangements for response to nuclear/radiological emergencies from ships, including IMO contribution to the next version of the "Joint Radiation Emergency Management Plan of the International Organizations"	Continuous	MSC/MEPC	SEC		Ongoing		
1.1.2.8	Cooperation with data providers: protocols on data exchange with international, regional and national entities	Continuous	Committees	SEC		Ongoing		
1.1.2.25	Policy input/guidance to ISO TC 8: development of industry consensus standards	Continuous	MSC/MEPC	SEC		Ongoing		
1.1.2.26	Policy input/guidance to PSC regimes: related IMO developments	Continuous	MSC/MEPC	FSI		Ongoing		Resolution A.1052(27) Procedure for port State control 2011-MEPC 63/23, para. 12.10.1
1.1.2.28	Policy input/guidance to Environment Management Group (established by UN General Assembly resolution 53/242): inter-agency sharing of information and agreement on priorities	Continuous	MEPC	SEC		Ongoing		
1.1.2.29	Policy input/guidance on GESAMP-related IMO developments	Continuous	MEPC	BLG		Ongoing		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
1.1.2.30	Policy input/guidance to GESAMP-BW Working Group: evaluation of active substances used by ballast water management systems	Annual	MEPC	BLG		In progress		
1.1.2.31	Policy input/guidance to GESAMP-EHS Working Group: evaluation of bulk chemicals	Annual	MEPC	BLG		In progress		
1.1.2.32	Policy input/guidance to UNFCCC: greenhouse gas emissions from ships	Continuous	MEPC	BLG		Ongoing		
1.1.2.33	Policy input/guidance to UN Globally Harmonized System: classification and labelling of products	Continuous	MEPC	BLG		Ongoing		
1.1.2.34	Policy input/guidance to UN-Oceans: inter-agency coordination on oceans and coastal issues	Continuous	MEPC	SEC		Ongoing		
1.1.2.35	Policy input/guidance to UN Regular Process: assessment of the state of the marine environment	Continuous	MEPC	SEC		Ongoing		
1.1.2.44	Follow up to the third meeting of the Joint ILO/IMO/BC Working Group on Ship Scrapping	2013	MEPC			In progress		
1.3.1.3	Identification of PSSAs, taking into account article 211 and other related articles of UNCLOS	Continuous	MEPC	NAV		Ongoing		
1.3.2.1	Contributions to UNCSD 2012 (Rio +20) and its preparatory meetings to showcase relevant work and follow-up to decisions of the Conference	2013	MEPC	SEC		In progress		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
1.3.2.2	Capacity-building follow-up action to UNCSD reflected in the ITCP	Continuous	TCC/MEPC			Ongoing		
1.3.3.1	Hazard profiles and evaluation of newly submitted substances to be incorporated into the IBC Code	Continuous	MEPC	BLG		Ongoing		
1.3.3.2	Approval of ballast water management systems	Continuous	MEPC			Ongoing		
1.3.5.1	Harmonized provisions relating to the safe, secure and efficient carriage of dangerous goods following participation in the activities of UNCOE TDG, GHS and IAEA	Continuous	MSC/MEPC	DSC	SEC	Ongoing		
2.0.1.1	Amendments to relevant MARPOL Annexes I, II, IV, V and VI on regional arrangements for port reception facilities	2012	MEPC			Completed		Resolution MEPC.216(63) and MEPC.217(63)
2.0.1.7	Non-mandatory instruments: clarified boundaries between MARPOL and the London Convention 1972	2013	MEPC			In progress		
2.0.1.8	Non-mandatory instruments: additional guidelines for implementation of the BWM Convention, including port State control	2013	MEPC	BLG/FSI		In progress		
2.0.1.9	Non-mandatory instruments: guidelines for replacement engines not required to meet the Tier III limit (MARPOL Annex VI)	2013	MEPC	BLG		In progress		
2.0.1.10	Revision of the standard specification for shipboard incinerators (resolution MEPC.76(40))	2013	MEPC	DE		In progress		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
2.0.1.11	Non-mandatory instruments: other relevant guidelines pertaining to equivalents set forth in regulation 4 of MARPOL Annex VI and not covered by other guidelines	2013	MEPC	BLG		In progress		
2.0.1.12	Non-mandatory instruments: guidelines called for under paragraph 2.2.5.6 of the NO_x Technical Code	2013	MEPC	BLG		In progress		
2.0.1.13	Development of a Code for Recognized Organizations	2012	MSC/MEPC	FSI		In progress		MEPC 64/23, annex 23
2.0.1.18	Unified interpretations of the MARPOL regulations	Continuous	MEPC	All sub-committees		Ongoing		MEPC.1/Circ.795; MEPC 64/23, annex 7
2.0.1.19	Comprehensive review of issues related to the responsibilities of Governments and development of measures to encourage flag State compliance	Continuous	MSC/MEPC		FSI	Ongoing		
2.0.1.20	Reports on the average sulphur content of residual fuel oil supplied for use on board ships	Continuous	MEPC	SEC		Ongoing		
2.0.1.21	Summary reports and analyses of mandatory reports under MARPOL	Continuous	MEPC	SEC	FSI	Ongoing		
2.0.1.22	GISIS module on mandatory and non-mandatory requirements	Annual	Committees	SEC	FSI	In progress		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
2.0.2.1	Review of the Code for the implementation of Mandatory IMO Instruments and consolidated audit summary reports, adoption of the new IMO Instruments Implementation (III) Code and making the III Code and auditing mandatory	2013	Assembly	Council	MSC/MEPC/ FSI	In progress		Draft Assembly resolutions, MEPC 64/23, annex 19 and annex 20
3.1.1.1	Guidance for the Secretariat concerning the environmental programmes and projects to which the Organization contributes or executes, such as GEF, UNDP, UNEP and World Bank projects or programmes, and the IMO/UNEP forum on regional cooperation to address marine pollution	Annual	MEPC			In progress		
3.1.1.2	Reports on partnership arrangements for, and on implementation of, environmental programmes	Annual	MEPC/TCC	SEC		In progress		
3.1.2.1	Guidance for the Secretariat concerning partnerships with the industry (Global Initiative) aiming at promoting implementation of the OPRC Convention and the OPRC-HNS Protocol	Annual	MEPC			In progress		
3.4.1.1	Guidance on identifying the emerging needs of developing countries, in particular SIDS and LDCs	Continuous	Committees			Ongoing		
3.5.1.3	Input to the ITCP on environmental protection	Continuous	MEPC			Ongoing		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
4.0.2.1	Guidance on the establishment or further development of information systems (databases, websites, etc.) as part of GISIS	Continuous	Committees		FSI	Ongoing		
4.0.2.3	Protocols on data exchange with other international, regional and national data providers	Continuous	Committees	FSI	SEC	Ongoing		
4.0.2.9	Electronic publications on preparedness for and response to accidental marine pollution produced jointly with the oil industry	2013	MEPC	SEC		In progress		
4.0.5.1	Revised guidelines on organization and method of work, as appropriate	Continuous	MSC/MEPC SEC			Ongoing		
5.2.1.17	Mandatory instruments: development of a mandatory Code of ships operating in polar waters	2014	MSC/MEPC	DE	FP/COMSAR /NAV/SLF /STW	In progress		
5.2.1.19	Non-mandatory instruments: review and update of the Survey Guidelines under the Harmonized System of Survey and Certification and the annexes to the Code for the Implementation of Mandatory IMO Instruments	2013	MSC/MEPC	FSI		In progress		Resolution A.1053(27) on Survey Guidelines under the Harmonized System of Survey and Certification 2011; MEPC 63/23, paras. 12.10.2 & 12.10.3
5.2.2.2	Mandatory instruments: input regarding MARPOL, BWM and other environmental conventions	2013	MEPC			In progress		
5.2.3.3	Mandatory instruments: development of amendments to the IMSBC Code, including evaluation of properties of solid bulk cargoes	Continuous	MSC/MEPC	DSC		Ongoing		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
5.2.3.7	Mandatory instruments: input regarding MARPOL Annexes I and II and the IBC Code	Continuous	MEPC			Ongoing		Resolution MEPC.225(64)
5.2.3.8	Mandatory instruments: amendments to MARPOL Annex III, as required	Continuous	MEPC	DSC		Ongoing		
5.3.1.2	Non-mandatory instruments: review of procedures for PSC	2013	MSC/MEPC	FSI		In progress		
5.3.1.4	Promote the harmonization of PSC activities	Continuous	MSC/MEPC	FSI		Ongoing		
5.3.1.5	Methodology for the in-depth analysis of annual PSC reports	2013	MSC/MEPC	FSI		In progress		
5.3.1.6	A risk assessment comparison between marine casualties and incidents and PSC inspections	Continuous	MSC/MEPC	FSI		Ongoing		
7.1.1.1	Follow-up to the GESAMP study on "Estimates of Oil Entering the Marine Environment from Sea-based Activities"	2013	MEPC			In progress		
7.1.1.2	Technical guidance for the Secretariat for the development, on the basis of reporting requirements under MARPOL, OPRC and the OPRC-HNS Protocol, as well as other relevant sources of information, of a pollution incident information structure for regular reporting to the FSI and BLG Sub-Committees, and/or the MEPC	2013	MEPC			In progress		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
7.1.2.1	Mandatory instruments: follow-up to the Hong Kong Convention on Ship Recycling, including development and adoption of associated guidelines	2013	MEPC			In progress		Resolutions: MEPC.222(64) and MEPC.223(64)
7.1.2.2	Mandatory instruments: designation of Special Areas and PSSAs and adoption of their associated protective measures	Continuous	MEPC	NAV		Ongoing		Resolution MEPC.226(64)
7.1.2.3	Provisions for the reduction of noise from commercial shipping and its adverse impacts on marine life	2013	MEPC	DE		In progress		
7.1.2.4	Approved ballast water management systems	Continuous	MEPC			Ongoing		
7.1.2.5	Production of a manual entitled "Ballast Water Management – How to do it"	Ongoing	MEPC	BLG		In progress		
7.1.2.6	Measures to promote the AFS Convention	2013	MEPC		FSI	In progress		
7.1.2.7	Manual on chemical pollution to address legal and administrative aspects of HNS incidents	2013	MEPC			In progress		
7.1.2.8	Development of guidance for minimizing the transfer of invasive aquatic species through biofouling of recreational craft	2012	MSC/MEPC	BLG	DE	Completed		MEPC 64/11, para. 3.6
7.1.2.9	Technical guidelines on sunken oil assessment and removal techniques	2013	MEPC			In progress		
7.1.2.10	Guide on Oil-Spill Response in Ice and Snow Conditions	[2014]	MEPC			In progress		
7.1.2.11	Updated IMO Dispersant Guidelines	[2014]	MEPC			In progress		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
7.1.2.12	Guideline for oil-spill response – offshore in situ burning	2013	MEPC			In progress		
7.1.2.13	Guidance on obligations and actions required by States to prepare for implementation of the OPRC-HNS Protocol	2012	MEPC			Completed		Incorporated under Output 7.1.2.7
7.1.2.14	Revision of the revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants (resolution MEPC.159(55))	2012	MEPC	DE		Completed		Resolution MEPC.227(64)
7.1.2.15	Development of a Code for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels	2013	MSC/MEPC	BLG	DE	In progress		
7.1.2.16	Development of guidance on the safe operation and performance standards of oil pollution combating equipment	[2014]	MEPC		DE	In progress		
7.1.2.17	Development of guidance for international offers of assistance in response to a marine oil pollution incident	[2014]	MEPC			In progress		MEPC 62/24, para. 20.6
7.1.2.18	Method to undertake environmental risk and response benefit assessments	2013	MEPC			In progress		
7.1.2.19	Development of criteria for the evaluation of environmentally hazardous solid bulk cargoes in relation to the revised MARPOL Annex V	2012	MEPC	DSC		Completed		Resolution MEPC.219(63) MEPC.1/Circ.791

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
7.1.2.20	Development of international measures for minimizing the transfer of invasive aquatic species through biofouling of ships	2013	MSC/MEPC	BLG	DE	In progress		
7.1.3.1	Reports on inadequacy of port reception facilities	Annual	MEPC	FSI		In progress		
7.1.3.2	Follow-up to the implementation of the Action Plan on port reception facilities	2013	MEPC	FSI		In progress		
7.1.4.1	Action Plan, as required, on prevention and control of marine pollution from small craft, including development of appropriate measures	Continuous	MEPC			Ongoing		
7.2.1.2	Input to the review of the guidelines on the identification of places of refuge with regard to marine environment protection	Continuous	MEPC			Ongoing		
7.2.2.2	Environmental aspects of alternative tanker designs	Continuous	MSC/MEPC	BLG	DE	Ongoing		
7.2.2.3	Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments	Continuous	MEPC	BLG		Ongoing		
7.2.3.1	Increased activities within the ITCP regarding the OPRC Convention and the OPRC-HNS Protocol	Annual	MEPC/TCC	SEC		In progress		
7.3.1.1	Review of relevant non-mandatory instruments as a consequence of the amended MARPOL Annex VI and the NO_x Technical Code	2013	MEPC	BLG		In progress		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
7.3.2.1	Further development of mechanisms needed to achieve the limitation or reduction of CO_2 emissions from international shipping	Annual	MEPC			In progress		Resolution MEPC 224(64); MEPC 64/23 Annex 9
7.3.2.2	Keep under review IMO measures and contributions to international climate mitigation initiatives and agreements (including CO_2 sequestration and ocean fertilization)	Annual	MEPC		BLG	In progress		
7.4.1.1	Follow up to the updated Action Plan on the Organization's strategy to address human element (MSC-MEPC.7/Circ.4)	Continuous	MEPC			Ongoing		
8.0.3.2	Electronic access to, or electronic versions of, certificates and documents required to be carried on ships	2013	FAL/MSC/ MEPC/LEG			In progress		
9.0.1.3	Provision of reception facilities under MARPOL in SIDS	Continuous	MEPC			Ongoing		
10.0.1.2	Mandatory instruments: development of goal-based ship construction standards for all types of ships, including safety, security and protection of the marine environment	2013	MSC/MEPC			In progress		
11.1.1.6	Measures to promote the "IMO Children's Ambassador" concept, in collaboration with junior marine environment protection associations worldwide	2013	MEPC			In progress		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
12.2.1.1	Non-mandatory instruments: guidelines and associated training to assist companies and seafarers in improving the implementation of the ISM Code	2012	MSC/MEPC	STW/JWGHE		In progress		Draft Assembly resolution, MEPC 64/23, annex 17
12.2.1.2	Non-mandatory instruments: revised guidelines for Administrations (resolution A.913(22)) to make them more effective and user-friendly	2012	MSC/MEPC	STW/JWGHE		In progress		Draft Assembly resolution, MEPC 64/23, annex 18
12.2.1.3	Mandatory instrument: enhancing the efficiency and user-friendliness of ISM Code	2013	MSC/MEPC	STW/JWGHE		In progress		
12.3.1.1	Guidance on the development of GISIS and on access to information	Continuous	MSC/MEPC	FSI		Ongoing		
12.3.1.3	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Continuous	MSC/MEPC	DSC	FSI	Ongoing		
12.3.1.4	Maintain an updated web-based inventory of OPRC/HNS related information, including R&D projects and best practices	Continuous	MEPC			Ongoing		
12.4.1.1	Guidelines and MEPC circulars	Continuous	MEPC			Ongoing		
13.0.2.1	Guidance for the Secretariat on the development of GISIS and on access to information	Continuous	MEPC	FSI		Ongoing		
13.0.2.2	Databases as part of GISIS and other means, including electronic ones	Continuous	Committees	SEC		Ongoing		

Planned output number in the High-level Action Plan for 2012-2013[a]	Description	Target Completion Year[b]	Parent organ(s)	Coordinating organ(s)	Associated organ(s)	Status of output for Year 1[c]	Status of output for Year 2[c]	References[d]
13.0.3.1	Improved and new technologies approved for ballast water management systems and reduction of atmospheric pollution	Annual	MEPC	BLG		In progress		

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ANNEX 29

ITEMS TO BE INCLUDED IN THE AGENDAS OF MEPC 65, MEC 66 AND MEPC 67

No.	Item	MEPC 65 May 2013	MEPC 66 [March] 2014	MEPC 67 [October] 2014
1	Harmful aquatic organisms in ballast water	RG X	[RG] X	[RG] X
2	Recycling of ships	X	[WG] X	X
3	Air pollution and energy efficiency	WG X	WG X	[WG] X
4	Reduction of GHG emissions from ships	X	[WG] X	[WG] X
5	Consideration and adoption of amendments to mandatory instruments	DG X	DG X	[DG] X
6	Interpretations of, and amendments to, MARPOL and related instruments	X	X	X
7	Implementation of the OPRC Convention and the OPRC-HNS Protocol and relevant Conference resolutions	X	X	X
8	Identification and protection of Special Areas and PSSAs	X	X	X
9	Inadequacy of reception facilities	X	X	X
10	Reports of sub-committees	X	X	X
11	Work of other bodies	X	X	X
[12	Status of conventions]			

No.	Item	MEPC 65 May 2013	MEPC 66 [March] 2014	MEPC 67 [October] 2014
13	Harmful anti-fouling systems for ships	X	X	X
14	Promotion of implementation and enforcement of MARPOL and related instruments	X	X	X
15	Technical Co-operation Sub-programme for the Protection of the Marine Environment	X	X	X
16	Role of the human element	X		
17	Noise from commercial shipping and its adverse impacts on marine life	X	[X]	[X]
18	Work programme of the Committee and subsidiary bodies	X	X	X
19	Application of the Committees' Guidelines	X	X	X
20	Election of the Chairman and Vice-Chairman	X		X
21	Any other business	X	X	X