

**HELCOM RECOMMENDATION 1/13**

adopted 5 May 1980 having regard to Article 13,  
Paragraph b) of the Helsinki Convention

**RECOMMENDATION ON REQUIREMENTS IN RESPECT OF LOADING AND UNLOADING OF HARMFUL SUBSTANCES IN PACKAGED FORMS**

**THE COMMISSION,**

**RECALLING** Paragraph B of Regulation 6 of Annex IV to the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974, (Helsinki Convention), requiring:

- 1) masters or owners of ships or their representatives to notify the appropriate port authorities at least 24 hours in advance of the intent to load or unload harmful substances in packaged forms, or in freight containers, portable tanks or road and rail tank wagons; and
- 2) the Commission to designate the substances in respect of which such notification shall be made,

**RECALLING** its Recommendation 1/3 entitled "Recommendation concerning the Adoption by the Baltic Sea States of the International Maritime Dangerous Goods (IMDG) Code"

**BEARING IN MIND** the work being carried out by IMCO in order to update the IMDG Code and to include marine pollutants in it,

**NOTING** IMCO circular MEPC/Circ. 78 on the inclusion of pollutants in the IMDG Code, containing basic principles for good practice for packaged substances which are considered to present a serious hazard to the marine environment (Annex I of MEPC/Circ. 78) and a list of substances which have been identified as marine pollutants (Annex II of MEPC/Circ. 78),

**HAVING CONSIDERED** the advice of the Interim Commission and its Maritime Working Group,

**RESOLVES** to designate, for the purposes of Paragraph B of Regulation 6 of Annex IV to the Helsinki Convention, all substances listed in IMCO Circular MEPC/Circ. 78, attached to this Recommendation.

**REQUESTS** Governments of the Contracting Parties to the Helsinki Convention to implement, as soon as practicable, this Recommendation through their national legislation and to report to the Commission on action taken to this effect.

INTERGOVERNMENTAL MARITIME  
CONSULTATIVE ORGANIZATION

MEPC/Circ. 78  
19 September 1979

**IMCO logo**

#### INCLUSION OF POLLUTANTS IN THE INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG) CODE

At its eleventh session, the Marine Environment Protection Committee approved amendments to MEPC/Circ.50 concerning the inclusion of pollutants in the IMDG Code, which had been recommended by the Sub-Committee on the Carriage of Dangerous Goods, and requested the Secretariat to prepare a revision of MEPC/Circ.50 for circulation to IMCO Member Governments.

... Attached hereto is the revised text of the Circular concerning the inclusion of pollutants in the IMDG Code, which supersedes MEPC/Circ.50 in its entirety.

INCLUSION OF POLLUTANTS IN THE INTERNATIONAL  
MARITIME DANGEROUS GOODS (IMDG) CODE

1. At the request of the Marine Environment Protection Committee, the Sub-Committee on the Carriage of Dangerous Goods considered the question of inclusion of pollutants in the IMDG Code as called for by Resolution 19 of the International Conference on Marine Pollution, 1973.

The Resolution recommends, inter alia that:

- (i) the Organization pursue and encourage studies on the impact that the carriage by sea of such harmful substances in packaged form, or in freight containers, portable tanks, or road and rail tank wagons, may have upon the marine environment;
  - (ii) the results of such studies be directed towards the revision of the scope of the International Maritime Dangerous Goods Code.
2. In response to the Recommendations of Resolution 19, the Sub-Committee having in mind the future need to provide a uniform basis for the national regulations required by Annex III to the 1973 Convention, has found it convenient to lay down basic principles for good practice for packaged substances which are considered to present a serious hazard to the marine environment. Attached at Annex 1 hereto are those principles. Attached at Annex 2 is a list of substances which have so far been identified by the Sub-Committee on the Carriage of Dangerous Goods as marine pollutants.
3. Member Governments are invited to use this Circular as guidelines in their interim measures to protect the marine environment from pollution which might arise from the carriage of harmful substances in packaged forms, or in freight containers, portable tanks or road and rail tank wagons.
4. Responsible utilization of this Circular by the governments will also assist the Sub-Committee on the Carriage of Dangerous Goods in gaining further information and experience concerning this subject. They are encouraged to develop technical data with regard to packing of hazardous substances which may be potential marine pollutants. Furthermore, it is considered necessary to learn more about the marine trade in those substances listed in Annex 2, e.g. which packagings were currently in use, whether they were unitized or not, and the relationship between the type of packaging used in practice and the proportion of active constituents in the substances carried in them. Governments are also urged to develop data on incidents involving the loss or damage of packages containing substances listed in Annex 2, including cases resulting in safe recovery.

**MEPC/Circ.78**  
**ANNEX 1**

**PRINCIPLES CONCERNING THE INCLUSION OF POLLUTANTS IN THE INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG) CODE**

1. Evaluation of substances

1.1 Prior to the International Conference on Marine Pollution, 1973, the Group of Experts on Scientific Aspects of Marine Pollution (GESAMP) developed a rationale on the evaluation of hazards of harmful substances in the marine environment (GESAMP IV/19/Supp.1)\*, in terms of their damage:

- (i) to living resources;
- (ii) to human health; and
- (iii) to amenities.

According to this rationale, GESAMP has, to date, compiled hazard profiles of some 850 substances (BCH/Circ.8).

1.2 For the purpose of Annex III to the International Convention for the Prevention of Pollution from Ships, 1973 it was agreed that these hazard profiles should be utilized as a basis for selection of harmful polluting substances.

1.3 It was further agreed that substances with high hazard ratings should undoubtedly be considered as marine pollutants within the context of the 1973 Marine Pollution Convention and the following selection criteria were accordingly applied to the GESAMP hazard profiles to identify marine pollutants:

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\* Circulated to Governments under cover of MPS/Circ.59 on 9 May 1973.

	Bioaccumulation	Damage to living resources	Hazards to human health, oral intake	Hazards to human health, skin contact, inhalation (solution)	Reduction of Amenities
Criteria	A	B	C	D	E
I	0	4	0	0	0
II	0	0	4	0	0
III	0	0	0	II	xxx
IV	0	0	0	II	xx
V	+	3	0	0	0
VI	+	0	3	0	0

Note:

- + in Column A means that the substance is bioaccumulated and liable to produce a hazard to aquatic life or human health;
- 4 in Column B means that the substance is highly toxic to aquatic life as defined by a TLM 96 less than 1 ppm.;
- 3 in Column B means that the substance is moderately toxic to aquatic life as defined by a TLM 96 between 1 and 10 ppm.;
- 4 in Column C means that the substance is highly hazardous to human health by ingestion as defined by a LD<sub>50</sub> less than 5 mg/kg;
- 3 in Column C means that the substance is moderately hazardous to human health by ingestion as defined by a LD<sub>50</sub> between 5 and 50 mg/kg;
- II in Column D means that the substance in solution is hazardous to human health through skin contact and inhalation;
- xxx in Column E means that the substance, in terms of reduction of amenities, is highly objectionable because of persistency, smell or poisonous or irritant characteristics; beaches liable to be closed;
- xx in Column E means that the substance is moderately objectionable because of its characteristic similar to "xxx" substances, but they are of short-term effect leading to temporary interference with use of beaches.

- 1.4 A number of substances (hereinafter referred to as "marine pollutants") evaluated and selected by the above criteria, are provisionally listed in Annex II. Chromium trioxide, Cresols, Phenols and Dinitrophenols are also included in the list, in the light of pollution experience already gained from past incidents, although their hazard profiles would not have required their inclusion.
- 1.5 It was also considered that those marine pollutants, the pollution potential of which is high, i.e. the hazard profile of which shows that they are bioaccumulated (+ in Column A) and highly toxic to aquatic life (4 rating in Column B), pose a serious and long-term hazard to marine life, and warrant particular attention and control when carried in packages aboard ships, and these substances are identified with an asterisk "\*" placed alongside the appropriate entries of Annex II.
- 1.6 It should be noted that when applying the criteria above to a list of substances evaluated by GESAMP, practically all of the substances are already controlled in the IMDG Code on the basis of their serious safety hazard. It is proposed to identify these substances on each applicable IMDG Code page by the simple notation under observation - "Marine Pollutant". However, consideration must be made of those substances which only represent a hazard to the marine environment and fall outside the IMDG Code. Such substances may be included within the IMDG Code, possibly in Class 9 or in a supplementary Class or an Annex to the IMDG Code. The possible alternative of including such substances in an Appendix to Annex III to the 1973 Marine Pollution Convention should also be borne in mind.

## 2. Stowage

- 2.1 It is recommended that marine pollutants are stowed, if possible under deck so that the likelihood of loss overboard is minimised. It should be borne in mind, however, that the safety of the ship and crew takes precedence over matters connected with pollution of the marine environment, and certain marine pollutants may need to be stowed on deck, e.g., when so required by the IMDG Code. Nevertheless, due consideration of the pollution problem should be taken into account before a marine pollutant is jettisoned. Marine pollutants which pose a serious and long-term hazard to marine life should be stowed in a recoverable position on a ship (such as in the square of a hold, or in a mast-house or deckhouse or similar accessible position, or on deck, firmly secured by lashings or other tie downs) to enable safe recovery from a sunken ship.
- 2.2 The stowage provisions are identified for each of the marine pollutants in the stowage column of Annex 2 with the following abbreviations:

ODO - on deck only

UDR - under deck recommended

RP - recoverable position.

## 3. Packing

- 3.1 Marine pollutants should not be carried in packagings which are likely to be quickly disintegrated by short time immersion in the sea. Marine pollutants which pose a serious and long-term hazard to marine life should not in general be packaged in such packagings as paper sacks or fibreboard unless additional packaging is present to

prevent ready dispersal in the sea, or unless such packagings are additionally adequately protected, e.g. in unit loads or in freight containers.

3.2 It is necessary, however, to find out more about the marine trade in products containing marine pollutants and the relationship between the types of packings used in practice and the percentages of active ingredients. Many commercial products contain very small quantities of a named pollutant, e.g. 0.1% to 10%, and for these formulations it might be possible to allow the use of packagings less robust and water-resistant than those used for products containing a high proportion of the same marine pollutant.

#### 4. Marking and labelling

4.1 To facilitate identification of packages containing marine pollutants lost at sea, and particularly to enable a diver to recover packages containing marine pollutants from a sunken ship, the provisions of paragraph 7.2.2 of Section 7 of the General Introduction to the IMDG Code should be applied. This paragraph requires the correct technical name of all hazardous products and their appropriate hazard symbol to be marked in such a way as to remain legible where the package is capable of surviving three months' immersion in the sea.

4.2 No markings additional to the above are proposed for packages containing marine pollutants.

#### 5. Documentation

5.1 For those substances identified as marine pollutants the consignor should enter the words "Marine Pollutant" under the supplementary information column of the declaration form or indicate the same on the shipping documents.

#### 6. Notification

6.1 In the event any substance being identified as a marine pollutant is lost overboard by accident or is intentionally jettisoned the ship's master should immediately notify the appropriate authorities concerned.

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**ANNEX 2  
LIST OF SUBSTANCES**

Substances	UN Number	IMDG Code page	Stowage <sup>1)</sup>	Remarks
Acetone cyanohydrin	1541	6008	ODO	
Acid Butyl phosphate	1718	8022	UDR	
Acrolein	1092	3021	UDR	
Acrylonitrile	1093	3022	UDR	
Aldrin * 2)	1542	6009	RP	
Allyl-isothiocyanate	1545	6011	ODO	
Aluminium phosphide	1397	6012	UDR	
Ammonium arsenate	1546	6013	UDR	
Aniline	1547	6016	UDR	
Antimony compounds	1549	6018	UDR	
meta-Arsenic acid	1554	6022	UDR	Solid
ortho-Arsenic acid	1553	6021	UDR	Liquid
Arsenic bromide	1555	6024	UDR	
Arsenic compounds, liquid, not otherwise specified	1556	6025	UDR	
Arsenic compounds, solid, not otherwise specified	1557	6026	UDR	
Arsenical flue dust	1562	6023	UDR	
Arsenic pentoxide	1559	6027	UDR	
Arsenic trichloride	1560	6028	UDR	
Arsenic trioxide	1561	6029	UDR	
Azinphos methyl (Guthion) *	2588	6174	RP	
Barium cyanide *	1565	6032	RP	
Benzidine	1885	6034	UDR	
Benzylidene chloride	1886	6035	ODO	
Bordeaux arsenites	1568	6038	UDR	

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1) See item 2 of Annex I  
ODO - on deck only  
UDR - under deck recommended  
RP - recoverable position

2) See item 1 of Annex I

\* Indicates the substance is liable to be bioaccumulated and of high toxicity to marine life and, therefore, poses a serious and long-term hazard to marine life.



Substances	UN Number	IMDG Code page	Stowage <sup>1)</sup>	Remarks
Bromine	1744	8052	RP/ODO	
Bromine pentafluoride	1745	8053	ODO	
Bromine trifluoride	1746	8054	ODO	
Bromobenzyl cyanide	1694	6040	ODO	
n-Butylamine	1125	3062	UDR	
sec-Butylamine	-	-	UDR	
tert-Butylamine	-	-	UDR	
Cacodylic acid	1572	6042	UDR	
Cadmium chloride *	2570	-	RP	
Calcium arsenate	1573	6043	UDR	
Calcium arsenate and arsenite	1574	6044	UDR	Solid mixtures
Carbaryl (Sevin) *	2588	6148	RP	
Carbon disulphide	1131	3026	ODO	
Chlorine	1017	2028	ODO	Gas
Chloroacetone	1695	6048	ODO	
Chlorodinitrobenzene	1577	6052	UDR	
Chlorohydrins	-	-	UDR	Crude
Chloropicrin	1580	6056	ODO	
Chromium trioxide	1463	5038	UDR	
Cocculus	1584	6061	UDR	Solid
Copper acetoarsenite	1585	6062	UDR	
Copper arsenite	1586	6063	UDR	
Copper cyanide	1587	6064	UDR	
Cresols	2076	-	UDR	
Cupriethylene diamine	1761	8071	UDR	
Cyanogen bromide	1889	6067	ODO	
Cyanogen chlorine	1589	2042	ODO	
D.D.T. *	2588	6148	RP	
Dichloroanilines	1590	6069	UDR	
Dichlorobenzenes	1591	6070	UDR	

Substances	UN Number	IMDG Code page	Stowage <sup>1)</sup>	Remarks
Diethyl phthalate	-	-	UDR	
Diisobutyl phthalate	-	-	UDR	
Dimethoate (Cygon)	2588	6148	UDR	
Dimethyl acetamide	-	-	UDR	
Dinitroanilines	1596	6073	UDR	
Dinitrobenzenes	1596	6074	UDR	
4,6-Dinitroorthocresol	1598	6075	UDR	
Dinitrophenol(s)	0076 1599	1053 6076	UDR UDR	
Diphenylaminechloroarsine *	1698	6078	RP/ODO	
Diphenylchloroarsine *	1699	6079	RP/ODO	
Diphenylmethane, 4,4-Diisocyanate	2489	9022-1	UDR	
Endosulphan (Thiodan) *	-	-	RP	
Endrin *	2065	6148	RP	
Ethyl dichloroarsine *	1695	6084	RP/ODO	
Ethylene chlorohydrin (2-Chloroethanol)	1135	3124	UDR	
Ethyl parathion *	1668	6142	UDR	
Ferric arsenate	1606	6086	UDR	
Ferric arsenite	1607	6087	UDR	
Ferrous arsenate	1608	6088	UDR	
Heptachlor *	2588	6148	RP	
Hexaethyl tetraphosphate	1611	6090	UDR	
Hexaethyl tetraphosphate and compressed gas mixture	1612	6091	ODO	
Hydrocyanic acid	1051/ 1613	2075/ 6092	ODO	
Hydrogen cyanide	1051/ 1614	2075/ 6093	ODO	
Lead arsenates	1617	6094	UDR	

Substances	UN Number	IMDG Code Page	Stowage <sup>1)</sup>	Remarks
Lead arsenites	1618	6095	UDR	
Lead cyanide	1620	6096	UDR	
Lindane (Gammexane, BHC) *	2588	6148	RP	
London purple	1621	6097	UDR	
Magnesium arsenate	1622	6098	UDR	
Malathion	2588	6148	UDR	
Mercuric acetate *	1629	6106	RP	
Mercuric arsenate *	1623	6099	RP	
Mercuric chloride *	1624	6100	RP	
Mercuric cyanide *	1636	6113	RP	
Mercuric nitrate *	1625	6101	RP	
Mercuric potassium cyanide *	1626	6102	RP	
Mercuric sulphate *	1645	6103	RP	
Mercurous nitrate *	1627	6104	RP	
Mercurous sulphate *	1628	6105	RP	
Mercury alkyl *	2025	6112	RP	
Mercury ammonium chloride *	1630	6107	RP	
Mercury benzoate *	1631	6108	RP	
Mercury bisulphate *	1633	6109	RP	
Mercury bromides *	1634	6110	RP	
Mercury compounds, inorganic *	2024	6111	RP	
Mercury compounds, organic *	2025	6112	RP	
Mercury gluconate *	1637	6114	RP	
Mercury iodide	1638	6115	UDR	
Mercury oxycyanide *	1642	6119	RP	
Mercury potassium iodide *	1643	6120	RP	

Substances	UN Number	IMDG Code Page	Stowage <sup>1)</sup>	Remarks
Motor fuel anti-knock compounds containing Tetraethyl lead and Tetramethyl lead	1649	6125	RP/ODO	
Naphthylthiourea	1651	6127	UDR	
Nickel cyanide *	1653	6129	RP	
Nicotine and Nicotine compounds	1654-9	6130-5	UDR	
Nitroanilines	1661	6136	UDR	
Nitrophenols	1663	6138	UDR	
Nitroxylenes	1665	6140	UDR	
Parathion	1668	6142	UDR	
para-Phenetidine	2311	-	UDR	
Perchloromethyl mercaptan	1670	6144	ODO	
Phenol	1671/ 2022	6148-1	UDR	
Phenylcarbylamine chloride	1672	6149	ODO	
Phenylhydrazine	2572	-	UDR	
Phenylmercuric hydroxide *	1894	6153	RP	
Phenylmercuric nitrate *	1895	6154	RP	
Phosphorus (Elemental) *	1381	4114/ 4115	RP	White, yellow, red
Polychlorinated biphenyls *	2315	-	RP	
Potassium arsenate	1677	6155	UDR	
Potassium arsenite	1678	6156	UDR	
Potassium cyanide	1680	6158	UDR	
Selenic acid	1905	8132	UDR	
Silver cyanide *	1684	6161	RP	
Sodium arsenate	1685	6162	UDR	
Sodium arsenite, solid	2027	6164	UDR	
Sodium cyanide	1689	6167	UDR	
Sodium hydrosulphide	2318	-	UDR	
Sodium pentachlorophenate	2567	-	UDR	
Strontium arsenite	1691	6169	UDR	

Substances	UN Number	IMDG Code Page	Stowage <sup>1)</sup>	Remarks
Strychnine and salts	1692	6170	UDR	
Tetraethyl dithiopyro- phosphate	1704	6175	ODO	
Tetraethyl pyrophosphate	1705	6176	ODO	
Thallium compounds	1707	6177	UDR	
Thioglycolic acid	1940	8154	UDR	
Toluene diisocyanate	2074	6093-1	UDR	
Toluidenes	1708	6178	UDR	
Toxaphene	2588	6148	UDR	
Tributyl phosphate	-	-	UDR	
1,2,4-Tricholobenzene	2321	-	UDR	
para-Tritolyl phosphate	-	-	UDR	
Trixylenyl phosphate	-	-	UDR	
Vinyl chloride	1086	2123	UDR	
Xylidines	1711	6180	UDR	
Zinc arsenate and arsenite solid mixtures	1712	6182	UDR	
Zinc chloride, solution	1840	8159	UDR	
Zinc cyanide *	1713	-	RP	
Zinc phosphide	1714	6184	UDR	