

TECHNICAL UPDATE No. 07, 2015 / August

NEW GUIDELINES FOR INVENTORY OF HAZARDOUS MATERIALS, MEPC.269 (68)



The major changes include revisions of threshold values, the bulk listing of common items, exemptions, loosely fitted equipment and the listing of radioactive sources.

1 THRESHOLD VALUES OF HAZARDOUS SUBSTANCES

The threshold values for 13 controlled hazardous substances have been freshly determined. The revised threshold values should be used for IHMs developed or updated after the adoption of the revised values and need not be applied to existing IHMs and IHMs under development. However, when materials are added to the IHM, such as during maintenance, the revised threshold values should be applied and recorded in the IHM. The Material Declaration has also been updated in accordance with the revised threshold values.

The asbestos threshold value is changed from “no threshold level” to 0.1%. A 1% threshold value can be applied not later than five years after the entry into force of the Convention. This should be recorded in the Inventory and, if available, the Material Declaration. The threshold value of 0.1% does not need to be retroactively applied to existing IHMs. The revised threshold values are stated in Tables A and B below.

OVERVIEW

The new 2015 Guidelines for the Development of the Inventory of Hazardous Materials, RESOLUTION MEPC.269 (68), have been adopted by the MEPC 68 meeting and supersede Resolution MEPC.197 (62) published in 2011. This newsletter summarizes the main changes that will influence the preparation and certification of the Inventory of Hazardous Materials (IHM).

Table A - Materials listed in appendix 1 of the annex to the Convention

No.	Materials	Inventory			Threshold level (old)	Threshold value (revised)
		Part I	Part II	Part III		
A-1	Asbestos	x			no threshold level	0.1%
A-2	Polychlorinated biphenyls (PCBs)	x			no threshold level	50 mg/kg
A-3	Ozone depleting substances	CFCs	x			
		Halons	x			
		Other fully halogenated CFCs	x			
		Carbon tetrachloride	x			
		1,1,1-Trichloroethane (Methyl chloroform)	x			no threshold level
A-3	Ozone depleting substances	Hydrochlorofluorocarbons	x			
		Hydrobromofluorocarbons	x			
		Methyl bromide	x			
		Bromochloromethane	x			
A-4	Anti-fouling systems containing organotin compounds as a biocide	x			2,500mg total tin/kg	2,500mg total tin/kg

Table B – Materials listed in appendix 2 of the annex to the Convention

		Inventory			Threshold level (old)	Threshold value (revised)
		Part I	Part II	Part III		
B-1	Cadmium and cadmium compounds	x			100 mg/kg	100 mg/kg
B-2	Hexavalent chromium and hexavalent chromium compounds	x			1,000 mg/kg	1,000 mg/kg
B-3	Lead and lead compounds	x			1,000 mg/kg	1,000 mg/kg
B-4	Mercury and mercury compounds	x			1,000 mg/kg	1,000 mg/kg
B-5	Polybrominated biphenyl (PBBs)	x			1000 mg/kg	50 mg/kg
B-6	Polybrominated diphenyl ethers (PBDEs)	x			1,000 mg/kg	1,000 mg/kg
B-7	Polychlorinated naphthalenes (more than 3 chlorine atoms)	x			no threshold level	50 mg/kg
B-8	Radioactive substances	x			no threshold level	no threshold value
B-9	Certain shortchain chlorinated paraffins (Alkanes, C10-C13, chloro)	x			1%	1%

2 BULK LISTING OF COMMON ITEMS

There is no need to individually list identical or common items, such as but not limited to bolts, nuts and valves. Similar items can be listed together. The locations can be generalized, e.g. the location may only include the primary classification such as “throughout the ship”. For example:

No.	Name of equipment and machinery	Location	Materials (classification in appendix 1)	Parts where used	Approximate quantity	Remarks
	FC valve (x 100)	Throughout the ship	Lead and lead compounds		20.5 kg	

3 EXEMPTIONS

A new definition, “Exemption”, has been introduced into the Guidelines. Exemptions are materials that do not need to be listed on the IHM, even if such materials or items exceed the IHM threshold values. Two kinds of exemptions are specified in the Guidelines in paragraph 3.3 Exemptions - materials not required to be listed in the IHM:

Table B materials in general construction

Materials listed in table B that are inherent in solid metals or metal alloys, such as steels, aluminiums, brasses, bronzes, plating and solders, provided they are used in general construction,

such as hulls, superstructures, pipes, or housings for equipment and machinery, are not required to be listed in the IHM.

Printed circuit boards

Although electrical and electronic equipment is required to be listed in the Inventory, the amount of hazardous materials potentially contained in printed wiring boards (printed circuit boards) installed in the equipment does not need to be reported in the Inventory. Table D, regular consumable goods potentially containing hazardous materials, provides examples of electrical and electronic equipment and more detailed information.

Table D - Regular consumable goods potentially containing hazardous materials (revised)

No.	Properties	Example	Inventory		
			Part I	Part II	Part III
D-1	Electrical and electronic equipment	Computers, refrigerators, printers, scanners, television sets, radio sets, video cameras, video recorders, telephones, consumer batteries			x
D-2	Lighting equipment	Fluorescent lamps, filament bulbs, lamps			x
D-3	Non ship-specific furniture, interior and similar equipment	Chairs, sofas, tables, beds, curtains, carpets, garbage bins, bed-linen, pillows, towels, mattresses, storage racks, decoration, bathroom installations, toys, not structurally relevant or integrated artwork			x

Table D - Regular consumable goods potentially containing hazardous materials (old)

No.	Properties	Example	Inventory		
			Part I	Part II	Part III
D-1	Domestic and accommodation	Computers, refrigerators, printers, scanners, television sets, radio sets, video cameras, video recorders, telephones, consumer batteries, fluorescent lamps, filament bulbs, lamps			x

4 LOOSELY FITTED EQUIPMENT

A new definition of “fixed” and “loosely fitted” has been added in the revised Guidelines, and loosely fitted equipment and batteries should now be listed in Part III of the Inventory.

Loosely fitted equipment

There is no need to list loosely fitted equipment in Part I of the Inventory and such equipment should be listed in part III. A definition of “Fixed” and “Loosely fitted” has been added in the new Guidelines:

Fixed means the conditions that equipment or materials are securely fitted with the ship, such as by welding or with bolts, riveted or cemented, and used at their position, including electrical cables and gaskets.

Loosely fitted equipment means equipment or materials present on board the ship by the conditions other than “fixed”, such as fire extinguishers, distress flares, and lifebuoys.

Batteries

Batteries containing lead acid or other hazardous materials that are fixed in place should be listed in Part I of the Inventory. Batteries that are loosely fitted, including consumer batteries and batteries in stores, and thus stated in Table D, should be listed in Part III of the Inventory.

5 LISTING OF RADIOACTIVE SOURCES

All radioactive sources should be included in Material Declarations and in the Inventory. A radioactive source means radioactive material permanently sealed in a capsule or closely bonded and in a solid form that is used as a source of radiation (not radioactive residues or contamination). This includes consumer products and industrial gauges containing radioactive materials. Radioactive sources should be included in the Inventory, regardless of the number, amount of radioactivity or type of radionuclide. A new appendix (Appendix 10) has been added to give examples of radioactive sources, and it is shown how to list a radioactive source in the IHM:

No.	Name of equipment and machinery	Location	Materials (classification in appendix 1)	Parts where used	Approximate quantity	Remarks
	Radioactive level gauge	No. 1 Cargo tank	Radioactive substances	Gauge	5 Ci / 1.8E+11 Bq*	Radionuclides: ⁶⁰ Co

*Ci and Bq are units of radioactivity. 1 Ci = 3.7×10^{10} Bq, therefore in this column, 5 Ci = 1.8×10^{11} Bq

Examples of radioactive sources

Examples of consumer products with radioactive materials	Examples of industrial gauges with radioactive materials
Ionization chamber smoke detectors (typical radionuclides ²⁴¹ Am; ²²⁶ Ra)	Radioactive level gauges
Instruments/signs containing gaseous tritium light sources (³ H)	Radioactive dredger gauges
Instruments/signs containing radioactive painting (typical radionuclide ²²⁶ Ra)	Radioactive conveyor gauges
High intensity discharge lamps (typical radionuclides ⁸⁵ Kr; ²³² Th)	Radioactive spinning pipe gauges
Radioactive lighting rods (typical radionuclides ²⁴¹ Am; ²²⁶ Ra)	

ADDITIONAL INFORMATION:

Webpage: Recycling and HazMat management
E-mail: recycling-hazmat@dnvgl.com