

Marine Haz Mat Surveys Checklist for Indicative List (Doc 2016-081)

Vessel	
IMO Number	
Report by, Date:	
Version, Date:	
Checked by, Date	

MEPC 269(68) Indicative List and MCADE675 amendments

Materials of Table A

1. Asbestos

Asbestos				
Structure and/or equipment	Component	Sample No.		Comment
		V	S	
Propeller shafting	Packing with low pressure hydraulic piping flange			
	Packing with casing			
	Clutch			
	Brake lining			
	Synthetic stern tubes			
Diesel engine	Packing with piping flange			
	Lagging material for fuel pipe			
	Lagging material for exhaust pipe			
Turbine engine	Lagging material turbocharger			
	Lagging material for casing			
	Packing with flange of piping and valve for steam line, exhaust line and drain line			
Boiler	Lagging material for piping and valve of steam line, exhaust line and drain line			
	Insulation in combustion chamber			
	Packing for casing door			
	Lagging material for exhaust pipe			
	Gasket for manhole			
	Gasket for hand hole			
	Gas shield packing for soot blower and other hole			
Exhaust gas economizer	Packing with flange of piping and valve for steam line, exhaust line, fuel line and drain line			
	Lagging material for piping and valve of steam line, exhaust line, fuel line and drain line			
	Packing for casing door			
Incinerator	Packing with manhole			
	Packing with hand hole			
	Gas shield packing for soot blower			
	Lagging material for exhaust pipe			
Auxiliary machinery (pump, compressor, oil purifier, crane)	Packing with flange of piping and valve for steam line, exhaust line, fuel line and drain line			
	Lagging material for piping and valve of steam line, exhaust line, fuel line and drain line			
	Packing for casing door and valve			
	Gland packing			
Heat exchanger	Brake lining			
	Lagging for pipes			
	Packing with casing			
Valve	Gland packing for valve			
	Lagging material and insulation			
	Gland packing with valve, sheet packing with piping flange			
Pipe, duct	Gasket with flange of high pressure and/or high temperature			
	Lagging material and insulation			

	Hot water tube sealing				
	Gaskets				
Tank (fuel tank, hot water, tank, condenser), other equipments (fuel strainer, lubricant oil strainer)	Lagging material and insulation				
Electric equipment	Insulation material				
	Cables				
	Cable penetration materials				
	Electric wiring fireproof mass				
Ceiling	False ceiling panel				
	Insulation material of inner and outer ceiling				
	Sealing and packing for covers, openings and fittings				
	Coatings				
Wall	Wall panel				
	Insulation material of inner and outer wall				
	Sealing and packing for covers, openings and fittings				
	Manhole gaskets				
Floor	Black primer on structure				
	Floor covering and floor structure (concrete or vinyl PVC coverings)				
	Adhesives, mastic and fillers				
	Additives to thixotropic (materials that are gel-like at rest, but fluid when agitated)				
	Sprayed insulation material as coating of floor				
	Concrete screed of galley & laundry room				
	Acoustic protection material coatings, concrete, screed,				
	Floor tiles / deck underlay				
Air conditioning system (Air conditioning room, compressor)	Insulation of pipe for cold chamber				
	Insulation of pipe for the compressor				
	Gaskets and sealing material				
	Sheet packing, lagging material for piping and flexible joint				
	Sealing and packing for covers, openings and fittings				
	Acoustic protection material, coatings, concrete, screed,				
	Glue for mineral wool,				
	Insulation and panelling				
Manhole gaskets					
Cargo space	Coatings of floor, wall and ceiling				
Cold chambers	Foam insulation,				
	Black glue for polystyrene				
Converter room	Inner and outer walls insulation				
Door	Fire protection sealing,				
	Insulation				
Fire door	Packing, construction and insulation of the fire door				
Fire-proof bulkhead	Insulation material				
	Thru-bulkhead for electric wiring				
	Fire proof panel and sealing				
Inert gas system	Packing for Casing and etc.				
Miscellaneous	Noise control insulation				
	Ropes, tarpaulins,				
	Moulded plastic products				
	Circuit breaker arc chutes				
	Concrete ballast				
	Fire-fighting blankets/clothing/equipment				
	Weld shop protectors/burn covers				
	Thru-bulkhead for electric wiring	Fire proof sealing, insulation			
		Cable penetration materials			
	Ventilation duct	Sealing material			
Insulation					
Winch/Windlass	Brake linings (brake pads, friction pad)				
Windows panel	Glass fibre, sealing mass				
Additional by HazMat Expert					

2. Polychlorinated Biphenyls

World wide restriction of PCBs was begun by the Stockholm Convention which has come into effect on 17 May 2004. In some countries domestic control has started since 1973 which prohibits all production, use and import of PCBs completely. Those addressed suppliers can provide accurate information concerning their products. The "indicative List" of PCBs is shown below.

PCB ITEMS				
Equipment	Component of equipment	Sample No.		Comment
		V	S	
Transformer (oil cooled)	Insulating oil			
Condenser	Insulating oil			
Fuel heater	Heating medium			
Electric cable	Covering, Insulating tape			
Lubricating oil	Machinery			
Heat Oil	Thermometers, sensors, indicators			
Hydraulic Oil	Hydraulic system (e.g: steering gear)			
Felt/rubber gaskets				
Rubber/Plastic	Rubber applications (rubber hose, plastic foam insulation, rubber isolation mounts)			
Insulation materials	Cable sheathing, Thermal insulating materials			
Voltage regulators				
Switches / reclosers / bushings				
Electromagnets				
Adhesives / tapes				
Surface contamination of machinery				
Coatings/paint (mostly oil based)	All over the vessel			
Caulking				
Pipe hangers				
Floor coverings	Glue, interlayer in floor pavement, floor coverings			
Capacitors and light ballasts in fluorescent light fixtures				
Plasticizers				
Felt under septum plates on top of hull bottom				

3. Ozone Depleting Substances

Ozone Depleting Substances have been controlled according to the Montreal Protocol and MARPOL convention. Almost all Substances are not to be used since 1996, but HCFC can still be used until 2020. The "Indicative List" for Ozone Depleting Substances is as follows. Exceptions according to the Montreal Protocol have to be kept in mind, depending on where the components were manufactured.

Ozone Depleting Substances				
Materials	Component of equipment	Sample No.		Comments Period for use of ODS in Japan
		V	S	
CFCs (R11, R12)	Refrigerant for refrigerators			Until 1996
CFCs	Urethane formed material			Until 1996
	Blowing agent for insulation of LNG carriers			Until 1996
	Blowing agent for insulation of cold chambers			
Halons	Extinguishing agent			Until 1994
Other fully halogenated CFCs	The possibility of usage in ship is low.			Until 1996
Carbon tetrachloride	The possibility of usage in ship is low.			Until 1996
1,1,1-Trichloroethane (Methyl chloroform)	The possibility of usage in ship is low.			Until 1996
HCFC (R22, R141b)	Refrigerant for refrigerating machine			It is possible to use it until 2020.
HBFC	The possibility of usage in ship is low.			Until 1996
Methyl bromide	The possibility of usage in ships is low			Until 2005
CFCs / HCFCs	Air Conditioning room insulation / black foam			

4. Organotin compounds

Organotin compounds include Tributyl Tins (TBT), Triphenyl Tins (TPT) and Tributyl Tin Oxide (TBTO). Organotin compounds have been used as anti-fouling paint on bottom of ship. Also Organotin compounds have been used as antifouling media for fishing nets. "International Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS Convention)" requires that all Ships shall not apply or re-apply organotin compounds after 1st January 2003, and also that all ships either shall not bear such compounds on their hulls, or shall bear a coating that forms a barrier to such compounds leaching to sea after 1st January 2008. Finally, the AFS Convention entered into force on 17th September 2008. The shipowner who purchased a used ship must take particular note of the fact that a significant number of ships were delivered with TBT anti-fouling paint regardless of AFS Convention.

Organotin Compounds				
Equipment	Material	Sample No.		Comments
		V	S	
Underwater Hull	Paint			

5. PFOS - Perfluorooctane Sulfonic Acid

PFOS				
Materials	Information	Sample No.		Comments
		V	S	
AFFF (Aqueous film-forming foams)	Used for aviation, marine and shallow spill fires developed in 1960s			
FFFP (Film-forming Fluor-protein foams)	Used for aviation and shallow spill fires			
AR-AFFF (Alcohol-resistant aqueous film-forming foams)	Multi-purpose foams			
AR-FFFP (Alcohol-resistant film-forming fluor-protein foams)	Multipurpose foams from the 1970s			
Hydraulic fluids				
Cable sheath				
Coatings				
Adhesives				

Materials of Table B

The materials listed in Table B are exempted from being listed in Part I of the Inventory for existing ships obligatorily. However, if they can be identified in a practicable way, they should be listed in the Inventory, as much information as possible will be supportive for the future ship recycling processes.

Table B Materials				
Materials	Component of equipment	Sample No.		Comments
		V	S	
Cadmium and Cadmium Compounds	Nickel-cadmium battery			
	Paint			
	Plating film, bearing, dye in plastic, antirust protection, soldering tin, monochrome display, PVC			
Hexavalent Chromium Compounds	Plating film,			
	Paint and coatings			
	Dyestuff, leather tanning agents, electroplating/anodising			
Mercury and Mercury Compounds	Fluorescent light bulbs and mercury lamp,			
	Mercury batteries			
	Electrical switches			
	Fire detectors			
	Liquid- level switch, gyro compass, thermometer, barometers, manometers, measuring tool, manganese cell, pressure sensors, light fittings, preservatives in water-based paints, ballast gauge systems, anodes			
Lead and Lead Compounds	Lead-acid battery,			
	Paint, Corrosion-resistant primer,			
	Solder (All electric appliances almost contain solder.)			
	Cable insulation, lead ballasts, generators			
Polybrominated Biphenyl (PBBs)	Non-flammable plastics			
	"Brown" goods such as television sets, computer hardware housings and monitors, etc.			
	Printed circuit boards			
	Electrical and electronic equipment e.g. distribution boxes for electrical lines			
Polybrominated Diphenyl Ethers (PBDE)	Insulation in cables			
	Cellular rubber			
(Penta-BDE's, Octa-BDE's or Deca-BDE's)				
(Penta-BDE's, Octa-BDE's or Deca-BDE's)	White goods such as washing machine, tumble dryer etc.			
	Polystyrene foams, Polyurethane foams			
	Expandable polystyrene (EPS), extruded polystyrene (XPS)			
Polychlorinated naphthalenes (PCNs)	Paint, Lubricating oil			
	Insulating coatings for electrical wires			
	Wood preservatives, rubber and plastic additives, capacitor dielectrics			
Radioactive Substances	Fluorescent paint, ionic type smoke detector, level gauge, light bulbs			
Certain Short chain Chlorinated Paraffins	Non-flammable plastics, sealants, paints and coatings			
HBCDD (Hexabromocyclododecane)	Expandable polystyrene (EPS), extruded polystyrene (XPS)			
	Switch plug cover			
	Electrical extension cover			
	Electrical and electronic equipment e.g. distribution boxes for electrical lines			
	Polymer material of switch board			
	Fire sensor/alarm cover			
	Light cover, cable sheath			
	Polymer made fire resistance insulation			
Coatings				
Flooring material				