PUBLICLY AVAILABLE SPECIFICATION

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Ships and marine technology — Ship recycling management systems — Information control for hazardous materials in the manufacturing chain of shipbuilding and ship operations

Navires et technologie maritime — Systèmes de management du recyclage des navires — Contrôle des informations sur les matières dangereuses intervenant dans la chaîne de construction du navire et durant le service du navire

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

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An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/PAS 30005 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*.

Introduction

This Publicly Available Specification has been developed in response to demand from industry for a ship recycling standard.

This Publicly Available Specification is based on the methodology known as Plan-Do-Check-Act (PDCA). PDCA can be described as follows.

— Plan: establish the objectives and processes necessary to deliver results in accordance with the organization's ship recycling policy.

— Do: implement the processes.

— Check: monitor and measure processes against recycling policy, objectives, targets, legal and other requirements, and report results.

— Act: take actions to continually improve performance of the recycling management system.

Ships and marine technology — Ship recycling management systems — Information control for hazardous materials in the manufacturing chain of shipbuilding and ship operations

1 Scope

This Publicly Available Specification provides guidance for the management, communication, and maintenance of information in an effective, standardized, and compatible manner in accordance with the requirements of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

MEPC.179(59), *Guidelines for the development of the inventory of hazardous materials*

SR/CONF/45, *Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in SR/CONF/45, MEPC.179(59), and the following apply.

3.1
upstream supplier
supplier which provides goods to a downstream supplier

3.2
downstream supplier
supplier which manufactures finished components, products or materials of any kind providing them to a customer for its final use or application

3.3
existing ship
not a new ship

3.4
new ship
ship for which

a) the building contract is placed on or after the date on which the Hong Kong Convention enters into force, or

b) in the absence of a building contract, the keel is laid, or which is at a similar stage of construction, six months or more after the date on which the Hong Kong Convention enters into force, or

c) the delivery is 30 months or more after the date on which the Hong Kong Convention enters into force

3.5
new installation
installation of systems, equipment, insulation, or other material on a ship after the date on which the Hong Kong Convention enters into force

3.6
hazardous material
HazMat
material or substance which is liable to create hazards to human health and/or the environment

4 Information management

4.1 General requirements

Information of hazardous material (HazMat) present on board ships is collected and managed in the form of an inventory of hazardous materials (IHM). Although the information gathering process differs between new and existing ships, in order to control the use of hazardous materials the person responsible shall

a) ensure that prohibitions and/or restrictions for the installation or use of hazardous materials listed in Appendix 1 of the Hong Kong Convention, SR/CONF/45, on board ships are considered, and

b) prohibit and/or restrict the installation or use of such materials on ships, whilst in ports, newbuilding shipyards, ship repair yards, or offshore terminals, and

c) take effective measures to ensure that ships comply with those requirements.

The control of hazardous materials information for ships shall be done by continuous maintenance and periodical checks of IHM. Each ship shall have on board a verified/certified IHM.

4.2 Inventory of hazardous materials (IHM) requirements policy

The IHM shall consist of three different parts, namely Part I, Part II and Part III (see Annexes A and B) and be specific to each ship.

a) Part I lists materials contained in ship structure or equipment. Materials which include hazardous materials listed in Tables A.1 and A.2 are listed in Part I. Once prepared and certified, it shall be maintained during the whole life cycle of a ship.

b) Part II lists operationally generated wastes. Items listed in Table B.1 correspond to Parts II and III of the IHM. It shall be developed prior to or at the latest at final voyage, when a ship is destined to be recycled.

c) Part III includes potentially hazardous materials that are listed in Tables B.1 and B.2, in stores and items excluded from IHM Part I falling under the exclusions of Table B.2. It shall be developed prior to or at the latest at final voyage, when a ship is destined to be recycled.

The related hazardous materials that can be found on board, including their location and quantity, are grouped in Tables A.1 and A.2, and Tables B.1 and B.2.

1) Table A.1 materials contained in ship parts, equipment and systems shall be listed in the IHM Part I for new and existing ships (see Annex A).

2) Table A.2 materials contained in ship parts, equipment and systems shall be listed in the IHM Part I for new ships and new installations. For existing ships, listing of these materials is voluntary (see Annex A).

3) Table B.1 (potentially hazardous items) includes items which are potentially hazardous to the environment and/or human health and shall be listed in IHM Parts II and III during preparations for recycling (see Annex B).

4) Table B.2 (regular consumable goods potentially containing hazardous materials) comprises goods which are not specifically designed for shipboard applications and can also be widely found in normal household applications. Those items shall be listed in IHM Part III during preparations for recycling (see Annex B).

Table 1 — The Inventory — Categorization and applicability

Scope of the IHM	Shipbuilding and operating	Preparation prior to recycling	
	Part I[b] **Structure and equipment**	**Part II[ab]** **Operative wastes**	**Part III[ab]** **Stores**
Table A.1[c] materials Mandatory for new ships and new installations, and existing ships	X		
Table A.2[c] materials Mandatory for new ships and new installations; voluntary for existing ships	X		
Table B.1[bc] Potentially hazardous items		X	X
Table B.2[c] Regular consumer goods potentially containing hazardous materials	List of exclusions		X

[a] Applicable only directly prior to recycling/last voyage.

[b] Operational relevant goods like lubricating oil, anti-seize compounds or grease, which are applied to keep normal performance of gear, equipment, and machinery present in small amounts do not fall under the scope of IHM Part I.

[c] Tables A.1, A.2, B.1 and B.2 correspond to Tables A, B, C and D in MEPC.179(59) and are reproduced here with permission.

The preparation of IHMs for new and existing ships differs.

For existing ships

a) IHM Part I shall be prepared under the responsibility of the shipowner at an early stage and at the latest directly prior to recycling of the respective vessel,

b) Table A.1 materials shall be listed in the IHM Part I for existing ships,

c) listing of Table A.2 materials is voluntary but should be listed as far as practicable, and

d) listing of Table A.2 materials is obligatory for any installation after the initial preparation of the inventory.

For new ships

a) IHM Part I shall be prepared at the design and construction stage by the shipyard and be delivered together with the ship, and

b) Tables A.1 and A.2 materials shall be listed in the IHM for new ships and new installations.

The maintenance of IHM Part I is required throughout the ship operational phase, especially during repair and conversions, when any of the IHM information becomes obsolete or inaccurate. Parts II and III are to be prepared prior to recycling.

4.3 Planning

4.3.1 IHM Part I for new ships

4.3.1.1 General

The shipyard is responsible for preparation of IHM. The shipowner shall include the requirement for IHM preparation for new ships in ship building contract with the shipyard.

Part I of the inventory shall be developed at the design and construction stage by the shipyard. The shipyard shall request information from its suppliers on their products' hazardous materials content by the material declaration (MD) form (see Annex C) and the supplier's declaration of conformity (SDoC) form (see Annex D). In order to provide this information to shipyards, suppliers must obtain information from their upstream suppliers and provide the requested information to downstream suppliers or customers.

Suppliers shall make a statement in the form of the MD and SDoC for all their supplied products and declare whether or not materials listed in Tables A.1 and A.2 are present in these products.

If the concentration of hazardous materials in a homogenous material is above threshold levels provided in Tables A.1 and A.2, as listed in the MD, the quantity of the hazardous material used shall be listed in IHM Part I, including information on where the homogeneous material is used in the equipment, system or machinery.

NOTE Table B.2 is an overview of common appliances, which do not have to be considered in the MD, the SDoC, or in the IHM Part I. As the appliances are not specific to maritime equipment and can widely be found elsewhere, it is assumed that anybody involved in, e.g. recycling or waste treatment, is aware of the contained hazardous materials. Also these appliances are often covered and regulated by other international regulations, e.g. Restriction of Hazardous Materials (RoHS). This exclusion is only applicable as long as these appliances contain only typical components. Anything not falling under this exemption (e.g. specially designed electronic items) has to be documented as required for other materials and components. If found to provide more clarity, physical marking of such materials and components allowing easy identification of specifically designed parts not falling under this exemption can be used.

4.3.1.2 Documentation of otherwise required information

Volumes of pipes and machinery containing hazardous materials listed in Annex B, Table B.1, shall be documented separately to enable the shipowner to prepare Part II and/or Part III of the IHM prior to recycling.

As far as possible, all forms required for preparation of IHM should be prepared, transmitted and processed electronically. Hardcopies should be avoided as far as possible due to the high number of documents to be handled.

4.3.1.3 Requirements for shipyards

The shipyard shall establish, implement and maintain procedure(s) for preparation of IHM Part I, including

a) identification of its suppliers of coating systems, components, equipment and structural elements and materials that are used during the construction of the ship,

b) requesting from these suppliers statements on whether or not the hazardous materials in Tables A.1 and A.2 are contained (MD),

c) ensuring that its suppliers provide complete and up-to-date information and, in case the threshold levels have been reached, providing additional information on the presence of the hazardous material like quantity (weight/volume) and location within the supplied goods (applicable for components) in the required form (MD),

d) ensuring that measures implemented by the suppliers for assuring accurate and up-to-date MDs are described in the SDoC and other required entries are correct,

e) ensuring that references from MDs and SDoCs are correct,

f) ensuring that the related forms are unchangeable and provided in electronic format (e.g. pdf files) from suppliers as shown in Annex C and Annex D; entries are to be made in original electronic form, no scans,

g) ensuring that in cases where a supplier does not provide an appropriate SDoC electronically, a signed hardcopy of the SDoC is provided and archived by the shipyard,

h) ensuring that the information on hazardous materials of Tables A.1 and A.2 is listed in the IHM when the concentration of them in an homogenous product exceeds the related threshold levels,

i) ensuring that only properly filled in MDs and related SDoCs are accepted,

j) directly utilizing the information from suppliers and considering calculations to determine the amount of materials used on board (e.g. for paints), and

k) ensuring effective and accurate preparation of the IHM, which will have to be certified.

NOTE Until entry into force of the Hong Kong Convention, for any missing MD or SDoC, the presence of hazardous materials in the components and materials can also be investigated by applying the methods applicable for existing ships.

The documentation regarding the presence and/or absence of hazardous materials shall be prepared in the form of an MD, which must be accompanied by an SDoC. Responsibility of the provided information lies with the company which carries out the investigation and preparation of the MD and SDoC.

The structure for gaining information via relevant documents by shipyards from the suppliers and from their supply chain (upstream suppliers) is shown in Figure 1. The advantages of a standardized approach throughout supply chains is to ensure the reliability for the HazMat information by traceability. By using uniform forms within supply chains, electronic data processing becomes possible [e.g. by automatic combination of MDs prepared by upstream suppliers (sub-MDs) into Tier I MDs (main-MDs), less re-typing and conversion of information and forms is required, and information is handled more effectively.

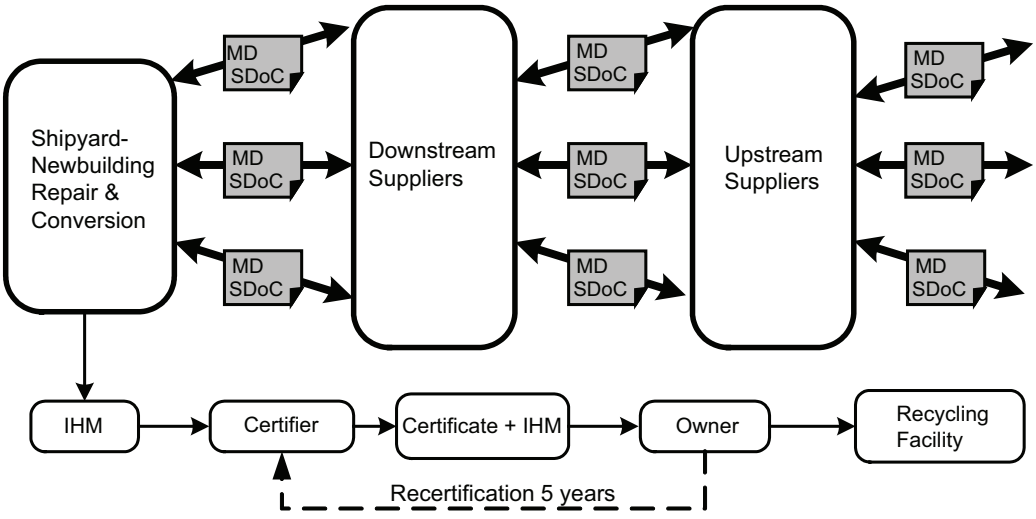

Figure 1 — Overview of information chains

4.3.1.4 Requirements for suppliers

4.3.1.4.1 Material declaration

Suppliers shall establish, implement and maintain procedure(s) to

a) ensure that for all their products supplied to the shipping industry, a statement on presence/absence of materials listed in Tables A.1 and A.2 is provided in the form of an MD,

b) constantly evaluate their products in a detailed way for providing accurate and up-to-date information on the presence of hazardous materials in the form of the MD,

c) identify their supply chain and require sub-MDs as a basis for preparation of own MDs,

d) ensure that up-to-date information is supplied by their supply chain,

e) identify missing information and establish a follow-up process for gaining missing information,

f) make sure that each homogenous material is evaluated and/or analysed,

g) support a modular data management for allowing an individual combination of information required due to product modifications,

h) clearly identify material in stock and related information from supply chains,

NOTE 1 In case of mass articles from different suppliers, evaluation of provided information and further utilization is appropriate when the highest content of hazardous materials of Tables A.1 and A.2 is further utilized.

i) provide a unique ID-number for identification of MD,

j) ensure that the related SDoC is identified in the MD,

k) ensure that all information (see Table 2) and forms required are available, maintained and provided electronically, and

l) ensure that the content of MD forms may not be changed or amended. Any changes or amendments by anyone other than the author of this form constitute a breach of copyright law.

NOTE 2 As an exemption, when a shipbuilder purchases more material or products than what is installed on one ship, the shipbuilder can fill in an “amount” column by themselves to specify what has been used for the particular ship, as the suppliers usually don't know if the delivered material/product is used for one or more ships.

Table 2 — Information required in MD

Entry	Description
Date of declaration	The preparation date of the report is written here
MD ID Number	Provision of a unique ID number for identification of MDs is necessary; see 4.3.1.4.3.1
Other information	Remarks are noted here
Supplier (respondent) information	Name, address, contact person, telephone numbers and SDoC ID No. is written in this part
Product information	Product name, product number (if available), product information, amount and unit of the product shall be provided
Material information	
Unit	It has to be stated which unit (whether 1 piece or 1 kg/m/m^2/m^3) of the mentioned product contains the amount of hazardous materials listed in Tables A.1 and A.2