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**COMMITTEE OF EXPERTS ON THE TRANSPORT OF
DANGEROUS GOODS AND ON THE GLOBALLY
HARMONIZED SYSTEM OF CLASSIFICATION
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the Globally
Harmonized System of Classification
and Labelling of Chemicals

Fifteenth session
Geneva, 9-11 July 2008
Item 5 (a) of the provisional agenda

IMPLEMENTATION OF THE GHS

Consideration of issues relevant to Material Safety Data Sheets (MSDSs) by IMO
Sub-Committee on Bulk, Liquids and Gases at its twelfth session (BLG 12)

Reports from Governments or Organizations

Transmitted by the International Maritime Organization (IMO)*

1. The Sub-Committee on Bulk Liquids and Gases (BLG Sub-Committee) held its twelfth session from 4 to 8 February 2008 and, amongst others, considered issues relevant to Material Safety Data Sheets. Details of such consideration are in the following paragraphs.
2. Having considered the issues relevant to MSDSs in plenary, the Sub-Committee reiterated the view that the provisions of resolution MSC.150(77), set out in the Annex to this document, are consistent with the GHS criteria and that the main purpose of the MSDSs is to inform workers of the possible dangers associated with the handling of chemicals and oils, and the safety data sheets as defined in the GHS might not be able to provide specific information that

* In accordance with the programme of work of the Sub-Committee for 2007-2008 approved by the Committee at its third session (refer to ST/SG/AC.10/C.4/24, Annex 2, para. 3(c) and ST/SG/AC.10/34, para. 14).

is relevant for any given work place and in particular on board a ship, the information required as per resolution MSC.150(77) is pertinent and important for the safety of seafarers, in particular. It was also emphasized that the availability of such information assisted the response and rescue services dealing with the emergencies associated with the handling and carriage of chemicals and oils.

3. The Sub-Committee in considering Annex 1 to resolution MSC.150(77), discussed extensively the issue of how to ensure that MSDS accurately identified the product (MARPOL Annex I cargo or bunker) and whether or not the information in the MSDS needed to be determined on the basis of individually testing the product being carried for each specific load or “lifting.” In addition, the Sub-Committee also discussed a concern over the MSDS being too generic and, consequently, not providing the information needed by the ship’s crew for their safety. Accordingly, the Sub-Committee agreed that MSDS needs to identify the product being carried on the basis of the product name as identified by the bill of lading, the bunker delivery note or other shipping document.

4. The Sub-Committee also agreed that the information in the MSDS concerning the properties of the product should accurately reflect the product being carried. For example, considering product XYZ, where the properties are well known and reflected in the MSDS, then that MSDS may be used for each instance that product is carried, provided it continues to accurately reflect the properties of the product. However, in the event that the properties change, e.g. through blending, such that the MSDS is no longer accurate, even if the name of the product name has not changed, a new and accurate MSDS needs to be provided. The Sub-Committee agreed, in principle, to the amendments to Annex 1 of resolution MSC.150(77) as shown (underlined) in the annex to this document.

5. The Sub-Committee further expressed the view that the requirement for the completion of MSDS in the case of every shipment of crude oil would have obvious financial repercussions and in addition, given the time constraints and in certain circumstances, it might not be possible to conduct certain required tests as they may require up to 36 hours to complete.

6. The Sub-Committee considered Annex 2 of resolution MSC.150(77), however, it was unable to complete the review of this annex. The Sub-Committee noted that this annex was very technical and given there was no formal proposal before the Sub-Committee to consider, and since the experts were not available, it would be unable to consider and agree at this time to any changes to this annex. Some of the issues noted were whether or not it was sufficient to specify only the maximum (or minimum) for some of the properties, whether or not a range should be permitted and if so, how large the range is reasonable. The Sub-Committee recognized that there are issues of practicality involved and agreed that these would be further discussed.

7. Based on these considerations, the Sub-Committee could not conclude the review and agree to changes to Annex 2 of the resolution at that session of the Sub-Committee.

Action requested of the GHS Sub-Committee

8. The GHS Sub-Committee may wish to include the needs of the maritime industry in its criteria on the Globally Harmonized System of classification and labelling of chemicals.

Annex

Resolution MSC.150(77)

**RECOMMENDATION FOR MATERIAL SAFETY DATA SHEETS
FOR MARPOL ANNEX I CARGOES AND MARINE FUEL OILS**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO that, at its seventy-sixth session, it approved the Recommendation for the use of a standard format for the cargo information required by chapter 16 of the IBC Code,

BEARING IN MIND that there are currently no mandatory requirements for occupational health and safety information relating to the transport of MARPOL Annex I type cargoes and marine fuel oils,

RECOGNIZING the importance of providing seafarers with clear, concise and accurate information on the health effects of toxic substances carried on board tankers,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Bulk Liquids and Gases at its eighth session,

1. ADOPTS the Material safety data sheets (MSDS) for marine use suitable to meet the particular needs of the marine industry containing safety, handling and environmental information to be supplied to a ship prior to the loading of MARPOL Annex I cargoes and marine fuel oils, as set out in Annex 1 to the present resolution;
2. ADOPTS ALSO the Guidelines for the completion of MSDS for the MARPOL Annex I type cargoes and marine fuel oils, as set out in Annex 2 to the present resolution;
3. URGES Governments to ensure the supply and carriage of the material safety data sheets (MSDS) for MARPOL Annex I cargoes and marine fuel oils, as from 2 June 2003.

Annex 1 to Resolution MSC.150(77)
(as amended by the BLG Sub-Committee)

MATERIAL SAFETY DATA SHEETS (MSDS)
FOR MARINE USE SUITABLE TO MEET THE PARTICULAR NEEDS OF THE
MARINE INDUSTRY CONTAINING SAFETY, HANDLING AND ENVIRONMENTAL
INFORMATION TO BE SUPPLIED TO A SHIP PRIOR TO THE LOADING OF
MARPOL ANNEX I TYPE CARGOES AND MARINE FUEL OILS

1	Identification of the substance or mixture and of the supplier	<ul style="list-style-type: none"> • Name of the category – see supporting guidelines for each <u>MARPOL</u> Annex I category type <u>as shown in Annex 2</u> • The name of the substances • Trade name of the substances • Description on of Bill of Lading (B/L), Bunker Delivery Note or other shipping document • Other means of identification • Supplier’s details (including name, address, phone number, etc.) • Emergency phone number
2	Hazards identification	<ul style="list-style-type: none"> • GHS classification of the substance/mixture and any regional information. • Other hazards which do not result in classification (e.g. dust explosion hazard) or are not covered by the GHS*).
3	Composition/information on ingredients	<ul style="list-style-type: none"> • Common name, synonyms, etc. • Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substances. • The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of GHS * <u>and are present above their cut-off levels. Cut-off level for reproductive toxicity, carcinogenicity and category 1 mutagenicity is 0.1%. Cut-off level for all other hazard classes is 1%.</u>
4	First aid measures	<ul style="list-style-type: none"> • Description of necessary measures, subdivided according to the different routes of exposure, i.e. inhalation, skin and eye contact and ingestion. • Most important symptoms/effects, acute and delayed. • Indication of immediate medical attention and special treatment, if necessary.

^{*} ~~Note : For information on ingredients, the competent authority rules for CBI take priority over the rules for product identification.~~

5	Fire-fighting measures	<ul style="list-style-type: none"> • Suitable extinguishing media. • <u>Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products).</u> • Special protective equipment and precautions for fire-fighters.
6	Accidental release measures	<ul style="list-style-type: none"> • Personal precautions, protective equipment and emergency procedures. • Environmental precautions. • Methods and materials for containment and clean up.
7	Handling and storage	<ul style="list-style-type: none"> • Precautions for safe handling. • Conditions for safe storage, including any incompatibilities.
8	Exposure controls/personal protection	<ul style="list-style-type: none"> • Control parameters e.g. occupational exposure limit values • Appropriate technical precautions • Individual protection measures, such as personal protective equipment
9	Actual p Physical {and} chemical and operational properties	<ul style="list-style-type: none"> • See supporting guidelines for each Annex 1 category type <u>shown in Annex 2</u>
10	Stability and reactivity	<ul style="list-style-type: none"> • Chemical stability. • Possibility of hazardous reactions. • Conditions to avoid (e.g. static discharge).
11	Toxicological information	<ul style="list-style-type: none"> • Concise but complete and comprehensible description of the various toxicological (health) effects and the available data used to identify those effects, including: <ul style="list-style-type: none"> • Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact); • Symptoms related to the physical, chemical and toxicological characteristics; • Delayed and immediate effects and also chronic effects from short- and long-term exposure. • Numerical measures of toxicity (such as acute toxicity estimates)
12	Ecological information	<ul style="list-style-type: none"> • Ecotoxicity (aquatic and terrestrial, where available). • Persistence and degradability • Bioaccumulation potential • Mobility in soil • Other adverse effects
13	Disposal considerations	<ul style="list-style-type: none"> • Description of waste residues and information on their safe handling and methods of disposal, in line with MARPOL requirements.

14	Transport information	<ul style="list-style-type: none">• UN number, <u>where applicable</u>• UN Proper shipping name, <u>where applicable</u>• Transport Hazard class(es), <u>where applicable</u>• Special precautions which a user needs to be aware of or needs to comply with in connection with transport (e.g. heating and carriage temperatures)• <u>Note that this product is being carried under the scope of MARPOL Annex 1.</u>
15	Regulatory information	<ul style="list-style-type: none">• Safety, health and environmental regulations specific for the product in question
16	Other information including information on preparation and revision of the MSDS	<ul style="list-style-type: none">• Version No.• Date of issue• Issuing source

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Annex 2 to Resolution MSC.150(77)**GUIDELINES FOR THE COMPLETION OF MSDS FOR THE MARPOL ANNEX I
TYPE CARGOES AND MARINE FUEL OILS****1. Categories of liquids**

The following categories subdivide the full scope of substances covered by Annex I of MARPOL 73/78 and set in groups specific products for general identification purposed to define the technical and environmental parameters required for the MSDS.

- 1 Crude oils;
- 2 Fuel and residual oils, including ship's bunkers (ISO 8217, table 2);
- 3 Unfinished distillates, hydraulic oils and lubricating oils;
- 4 Gas oils, including ship's bunkers (ISO 8217, table 1);
- 5 Kerosenes;
- 6 Napthas and condensates;
- 7 Gasoline blending stocks;
- 8 Gasolines and spirits; and
- 9 Asphalt solutions.

2. Outline of technical, physical and environmental properties

2.1 The following properties should be reported for all liquids categorized in paragraph 1:

- 1 Technical properties:
 - Density at 15°C – kg/m³
 - Sulphur content % mass
 - Benzene content – mg/kg
 - Hydrogen sulphide content – mg/kg
 - Saturated vapour pressure at recommended carriage temperature – kPa; and
- 2 Environmental properties:
 - Distillation % recovered at 200, 340, and 370°C.

2.2 In addition to parameters required in paragraphs 2.1.1 and 2.1.2 above, the following properties should be reported by liquid category:

- 1 Crude oil:
 - Kinematic viscosity at 20 and 50°C – mm²/sec:
 - Pour point temperature – °C
 - Cloud point temperature – °C
 - Reid vapour pressure – kPa
 - Asphaltene content - % wt.

2 Residual and fuel oils, including ship's bunkers:

Parameters stipulated by table 2 of ISO 8217

Identification of differing additives and their percentage in the shipped liquid

Asphaltene content - % wt

3 Unfinished distillates, hydraulic oils and lubricating oils:

Kinematic viscosity at 20 and 40°C – mm²/sec

Flash point (PMCC) – °C

Pour point temperature – °C

Cloud point temperature – °C

Reid vapour pressure – kPa

Identification of differing additives and their percentage in the shipped liquid

Asphaltene content - % wt

4 Gas oils, including ship's bunkers:

Parameters stipulated by table 1 of ISO 8217

Identification of differing additives and their percentage in the shipped liquid

Asphaltene content - % wt

5 Kerosenes:

Total acidity – mgKOH/g

Aromatic content - % volume

Flash point – °C

Identification of differing additives and their percentage in the shipped liquid

6 Napthas and condensates:

Total acidity – mgKOH/g

Aromatic content - % volume

Flash point – °C

Reid vapour pressure – kPa

7 Gasoline blending stocks:

Aromatic content - % volume

Reid vapour pressure - kPa

Flash point – °C

8 Gasolines and spirits:

Total acidity – mgKOH/g

Aromatic content - % volume

Reid vapour pressure - kPa

Identification of differing additives and their percentage in the shipped liquid; and

9 Asphalt solutions:

Aromatic content - % volume

Flash point (PMCC) – °C

Asphaltene content - % wt

Identification of differing additives and their percentage in the shipped liquid

Pour point – °C.
