

## 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

13 August 2015

### Thirtieth session

Geneva, 9 – 11 December 2015

Item 3 (e) of the provisional agenda

**Classification criteria and related hazard communication:**

**Miscellaneous**

## Classification for floaters

Transmitted by the International Maritime Organization (IMO)

### Background

1. The “Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)” is an advisory body composed of specialized experts nominated by the sponsoring agencies (IMO, FAO, UNESCO-IOC, WMO, IAEA, United Nations, UNEP, UNIDO, UNDP) that provides scientific advice regarding the prevention, reduction and control of the degradation of the marine environment to the sponsoring agencies including the United Nations itself. The International Maritime Organization serves as the secretariat of this United Nations advisory body.
2. The GESAMP/EHS Working Group is the GESAMP body that has been tasked with evaluating liquid chemical substances carried in bulk and identifying the human health and environmental hazards associated with these substances, with the results of its work feeding directly into the international regulatory regime for the transport of liquid chemicals in bulk established by the International Maritime Organization (IMO).
3. In late 2014, GESAMP published an update of its Reports and Studies No.64<sup>1</sup> (2<sup>nd</sup> Ed) entitled the *Revised GESAMP Hazard Evaluation Procedure for Chemical Substances carried by Ships, 2<sup>nd</sup> Edition*. This document, which is generally in line with GHS principles, establishes the specific criteria for evaluating both the human health and environmental hazards associated with chemical substances carried on ships that may enter the marine environment through operational discharge, accidental spillage, or loss overboard.
4. The information is collated in what is known as the “GESAMP Hazard Profile”, an easily readable fingerprint of the hazard characteristics of each substance. The full listing of GESAMP hazard profiles can be found in the *GESAMP Composite List*<sup>2</sup>, which is updated and published annually by the IMO.

<sup>1</sup> [http://www.gesamp.org/publications/publicationdisplaypages/therevised-gesamp-hazard-evaluation-procedure\\_-2nd-edition](http://www.gesamp.org/publications/publicationdisplaypages/therevised-gesamp-hazard-evaluation-procedure_-2nd-edition)

<sup>2</sup> <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/ChemicalPollution/Pages/ChemicalsReportingForms.aspx>

## Classification of floating substances

5. Marine environmental risk assessments, together with practical experience, have shown that chemicals floating at the sea surface will not only form slicks and contaminate coastal zones (e.g. beaches) but can also have major impacts on marine wildlife, in particular birds and coastal marine mammals, and cause significant environmental damage. Sea birds covered in oil become icons during major marine pollution accidents. In addition, sinking substances may cover and blanket the sea bed, effectively smothering marine life.

6. Chemicals that are spilled at sea may behave in different ways, depending on their properties and prevailing environmental conditions. Typically, they will float, evaporate, dissolve or sink. However, in reality, they will often exhibit more complex behaviour patterns when released into the marine environment. The physical and chemical properties of the substances, such as their physical state, density, vapour pressure and solubility, can provide an indication of their behaviour pattern when released at sea.

7. Based on the above, the GESAMP/EHS Working Group proposed modifications to the existing classification system to describe these more complex behaviour patterns, based on specific physical data. These new categorizations are defined as follows:

.1 A floating substance that is not likely to evaporate or to dissolve quickly is defined as a “Floater (F)”, with following criteria:

- Density:  $\leq$  sea water ( $1025 \text{ kg/m}^3$  at  $20^\circ\text{C}$ )
- Vapour pressure:  $\leq 0.3 \text{ kPa}$
- Solubility:  $\leq 0.1\%$  (for liquids) or  $\leq 10\%$  (for solids)

.2 A substance that forms persistent slicks is defined as “Persistent Floater (Fp)”, with following criteria:

- Density:  $\leq$  sea water ( $1025 \text{ kg/m}^3$  at  $20^\circ\text{C}$ )
- Vapour pressure:  $\leq 0.3 \text{ kPa}$
- Solubility:  $\leq 0.1\%$  (for liquids) or  $\leq 10\%$  (for solids)
- Viscosity:  $>10 \text{ cSt}$  at  $20^\circ\text{C}$

.3 A sinking substance that will deposit on the seabed and that is not likely to dissolve quickly is defined as a “Sinker (S)”, with following criteria:

- Density:  $>$  seawater ( $1025 \text{ kg/m}^3$  at  $20^\circ\text{C}$ )
- Solubility:  $\leq 0.1\%$  (for liquids) or  $\leq 10\%$  (for solids)

8. There are additional sub-categories within the system that can be used for the purposes of response planning and decision-making in the event of a chemical spill sea.

9. GESAMP/EHS based its criteria on the Behaviour Classification System contained in the Bonn Agreement Counter Pollution Manual, noting that parts of this system had also been introduced in other international regulations (e.g. the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) and national regulations (e.g. chemical plant licensing regulations in Germany).

## Action requested

10 The International Maritime Organization, on behalf of GESAMP, invites the Sub-Committee to note the information provided and consider its potential use as a base document in connection with any potential future work related to the classification of floaters topic may be undertaken by the Sub-Committee within the context of the GHS.

---