GESAMP
Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection

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Agenda item 4

**PLANNING OF GESAMP ACTIVITIES:
EVALUATION OF THE HAZARDS OF HARMFUL SUBSTANCES
CARRIED BY SHIPS**

Report of the Chair of Working Group 1

1 Since the last meeting of GESAMP, Working Group 1 has met once. The 55th session (EHS 55) was held in London from 30 April to 4 May 2018. The full report has been published as EHS 55/9 and circulated as IMO circular PPR.1/Circ.5.

Main use of GESAMP/EHS outputs

2 As outlined in the previous reports to GESAMP, the GESAMP Hazard Profiles (GHP) developed by Working Group 1:

.1 contain a unique fingerprint for each substance, providing information on fourteen separate human health, environmental and physico-chemical hazard criteria and consist of an alphanumerical notation designed to communicate the hazards;

.2 are published by IMO annually as the GESAMP Composite List (circulated together with the meeting report as a PPR.1/Circular), which are placed on the IMO website for the use of maritime Administrations, the shipping industry and chemical manufacturers; and

.3 provide the basis for the pollution categorization of over 900 substances. MARPOL Annex II and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) utilise these profiles to determine the pollution category, ship type and carriage conditions for each chemical, for the purposes of bulk carriage in ships.

3 The latest draft version of the Chapter 21 of the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code) makes direct reference to GHP ratings for all carriage conditions including environmental protection, ship safety, and occupational health. The GESAMP Composite List is the only global list of hazard classifications/ratings used for regulating hazardous chemicals on a global scale based on guidance given by the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Evaluation of substances

4 The main work carried out at the last session concerned the evaluation of substances, as per the usual practice. Data on eleven new substances were evaluated and full GESAMP Hazard Profiles (GHPs) were assigned, accordingly. The GHPs for four substances were either modified or reconfirmed, based on consideration of new data.

5 The Group informally discussed the procedures and the workload when evaluating new substances. The total volume of data sets, the number of publications linked to the submitted data and the risk assessment reports on the chemical substances involved have all increased significantly during the last decade. The main reason for such an increase in the volume of data

sets is the European chemicals policy with the requirements set under the so-called REACH regulation. Under this European legislation, the chemical industry has not only to establish a full set of safety information including competent summaries of scientific studies, but also to compile specific Chemical Safety Reports (CSR). Such reports usually exceed one hundred pages (often running into several hundred pages as in the cases of the substances evaluated during EHS 55) and are of a confidential nature. With the number of submissions to be evaluated during a five-day session, a full study of such documents by all members of the Working Group is not possible. New ways of making such confidential information available for the Working Group´s experts in preparation of the meeting should be discussed. There are legal restrictions for circulation of confidential data and practical challenges concerning the overall workload of the members of the Working Group when such homework would be introduced. The situation will be further discussed.

The evolution of the Guidance on evaluation and hazard ratings

6 In 1982, almost ten years after work started on the assessment of the environmental hazards of substances carried by ships, GESAMP decided to publish the working procedures which had been written in different technical reports over the years as Reports & Studies No. 17 “The Evaluation of the Hazards of Harmful Substances Carried by Ships”. Seven years later, in 1989, GESAMP published a further report No.35 under the Reports & Studies series with more sophisticated criteria for ratings. This report showed more detailed sets of criteria to be used for ratings and guidance on measuring taint in fish as well as a data submission format. The guidance and the rating system from 1989 was successfully used for nearly ten years.

7 In the late 1990s the group was involved in the creation of a global approach to the hazard classification and labelling of chemicals and discussed the influence of biodegradation, the effects of floating substances (creating oil-like slicks) and a better inclusion of specific test data from the standardised studies introduced by OECD starting in the 1980s. The amendments to the GESAMP Hazard Evaluation Procedure were published in 2002 as “Revised GESAMP Hazard Evaluation Procedure for Chemical Substances Carried by Ships” (Reports & Studies No. 64). A further ten years later, experience showed a need for very limited refinements of the procedure based on discussions concerning individual ratings but in particular the practise by maritime administrations and the industry to use the hazard profile for a number of carriage requirements. A second edition of Reports & Studies No. 64 was published in 2014.

8 As already discussed during the last GESAMP sessions, ongoing work at IMO on revised and new regulations for shipping (e.g. the IBC Code for chemical tankers and OSV Code for offshore supply vessels) asks for a more sophisticated evaluation of the inhalation hazard, and on a realistic scientific evaluation of mineral slurries. Emergency responders asked for including an additional scientific evaluation of the flammability and explosion hazard. Extended and more sophisticated guidance for the evaluation and the hazard ratings of chemicals (substances and mixtures) is now needed, after more than 15 years of work based on the guidance published in 2002 as Reports & Studies No. 64.

A revised GESAMP Hazard Evaluation Procedure

9 The Group initiated discussions on possible future amendments to the existing guidance during the 53rd session in 2016, developed first drafts intersessionally and finalized draft texts and rationales during the 54th session in 2017. This year, at the 55th session, the Group considered the draft revision of this Hazard Evaluation Procedure that had been prepared intersessionally by EHS expert sub-groups under the coordination of the Chair.

10 Having recalled the agreed timeline for completion of the revision of the Hazard Evaluation Procedure for finalization and publication in time for the 50th anniversary of GESAMP in 2019, the Group comprehensively reviewed the draft that had been prepared intersessionally and concluded that all technical and scientific matters had been considered sufficiently and to the satisfaction of the Group.

11 The Group, inter alia, further developed the draft text that had been developed intersessionally, describing the procedure used by the EHS Working Group for assigning ratings to mixtures for all columns. Due to time constrains, the Group was not able to create a final version of the draft text pertaining to mixtures and agreed to further refine the already comprehensive draft during the weeks immediately following EHS 55. The Group managed to finalize all other parts of the draft revision of Hazard Evaluation Procedure and requested the Secretariat to effect editorial correction and to incorporate the text pertaining to the assignments of ratings to mixtures.

12 It was agreed that, as the draft revision was the result of a comprehensive review by the Group, it might be subject to a formal review by GESAMP and the Group invited the GESAMP to consider assigning a new number to the Reports and Studies once approved. Subsequently, the Group invited the Secretariat to take the appropriate action for the draft revision of the GESAMP Hazard Evaluation Procedure to be published in time for the 50th anniversary of GESAMP in 2019 and preferably before EHS 56.

Specific work in preparation of EHS 56 in 2019

13 The Group continued its review of flashpoint information for products, extracted from the GISIS bulk chemicals database, and agreed to continue the review intersessionally, with a view to completing the work at EHS 56 for incorporation in the Composite List once the revised GESAMP Hazard Evaluation Procedure had been published.

14 The Group noted the request by IMO on advice with regard to recommended cut-off values to be used when assessing mixtures containing components with long-term health effects. Due to time constraints, the Group was unable to finalize the requested advice. However, the Group noted that, as part of its revision of Reports & Studies No.64, it was in the process of developing text describing the procedure used by the EHS Working Group for assigning ratings to mixtures, including those health hazards. The Group agreed that the relevant text from the revised Reports and Studies No.64 would form the basis for developing a simplified recommendation, at EHS 56, for consideration by IMO.

The Terms of Reference (ToR) for the Working Group

15 The terms of reference of the GESAMP EHS Working Group, as given by GESAMP at its 6th session in 1974 and amended at its 8th session in Rome (1976) are:

> *"To examine and evaluate data and to provide such other advice as may be requested, particularly by IMO, for evaluating the environmental hazards of harmful substances carried by ships, in accordance with the rationale approved by GESAMP for this purpose".*

16 These existing terms restrict the scientific evaluation and advice to environmental hazards. However, during the last years, the EHS Working Group had been requested to evaluate occupational hazards for ships´ crews and those handling the cargo, as well as to offer advice on maritime emergency response. The GESAMP Hazard Profile is used by IMO and maritime administrations for assigning minimum carriage requirements for the transport of liquid bulk cargoes, in general. Most of these technical requirements target ship safety, many relate to environmental protection and others relate to occupational protection. Upcoming IMO regulations will specify the involvement of the GESAMP EHS Working Group and the use of the GESAMP Hazard Profile in all of these three areas.

17 Accordingly, it is proposed to amend the terms of reference to read as follows:

*"The GESAMP Working Group on the **Evaluation of the Hazards of Harmful Substances Carried by Ships** is an expert group to provide best available scientific assessment of the environmental, occupational and safety hazards of chemicals, in particular to:*

.1 provide scientific advice on the hazards of chemicals transported by ships as may be requested, particularly by IMO;

.2 evaluate safety data and test reports on specific chemicals submitted by industry in accordance with the rationale approved by GESAMP for this purpose and create a GESAMP Hazard Profile for such chemicals accordingly;

.3 maintain a list of hazard evaluations ("Composite List" of GESAMP Hazard Profiles) for the use by IMO and keep it up to date based on available scientific data; and

.4 observe the developments concerning the international harmonization of hazard classification by the United Nations and scientific guidance on hazard assessment published by international organizations to improve the GESAMP hazard evaluation procedure and GESAMP hazard ratings."

Action requested of GESAMP

18 GESAMP is invited to take action as appropriate, in particular:

.1 to consider the information provided;

.2 to decide on the process of review and publication of the new guidance document: "GESAMP Hazard Evaluation Procedure for Chemicals Carried by Ships"; and

.3 to discuss the proposed revised terms of reference for the EHS Working Group.