

SUB-COMMITTEE ON POLLUTION
PREVENTION AND RESPONSE
6th session
Agenda item 3

PPR 6/3
1 November 2018
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**SAFETY AND POLLUTION HAZARDS OF CHEMICALS AND PREPARATION OF
CONSEQUENTIAL AMENDMENTS TO THE IBC CODE**

**Report of the twenty-fourth session of the Working Group on the Evaluation of Safety
and Pollution Hazards of Chemicals**

Note by the Secretariat

SUMMARY

Executive summary: This document reports on the outcome of the twenty-fourth session of the Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals (ESPH 24) that was held from 1 to 5 October 2018

Strategic direction, if applicable: 6

Output: 6.3

Action to be taken: Paragraph 10

Related document: PPR 1/Circ.5

1 INTRODUCTION

1.1 The twenty-fourth session of the Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals (ESPH) of the Sub-Committee on Pollution Prevention and Response met from 1 to 5 October 2018 and was chaired by Mrs. Jeannette Gómez Contreras (Netherlands).

1.2 The meeting was attended by delegates from the following Member Governments:

ANGOLA
ARGENTINA
CAMEROON
CANADA
CHILE
CHINA
EGYPT
FINLAND

FRANCE
GERMANY
GREECE
JAPAN
LIBERIA
MALAYSIA
MARSHALL ISLANDS
NETHERLANDS

NIGERIA
NORWAY
PERU
PHILIPPINES
SAUDI ARABIA

SOUTH AFRICA
SPAIN
UNITED KINGDOM
UNITED STATES

and by observers from the following non-governmental organizations in consultative status:

DANGEROUS GOODS ADVISORY COUNCIL (DGAC)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS
(INTERTANKO)
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)

1.3 The Group adopted its provisional agenda and annotated agenda for the meeting, as set out in documents ESPH 24/1 and ESPH 24/1/1, respectively.

2 DECISIONS OF OTHER BODIES

2.1 Under this agenda item, the Group had for its consideration document ESPH 24/2 (Secretariat), containing information on the outcomes of GESAMP/EHS 55, MEPC 72 and MSC 99 that bore relevance to the work of the ESPH Working Group.

OUTCOME OF GESAMP/EHS 55

2.2 With regard to the outcome of GESAMP/EHS 55, the Group noted the relevant parts of document ESPH 24/2, in particular the results of those items that it and PPR 5 had referred to GESAMP/EHS 55 for advice and action. The Group also noted that the full report of GESAMP/EHS 55, together with the revised GESAMP Composite List, had been circulated as PPR.1/Circ.5.

New substances

2.3 The Group was informed that GESAMP/EHS 55, as part of its regular work, had considered submissions for 11 new substances and had assigned GESAMP Hazard Profiles (GHPs) accordingly, which had subsequently been added as new entries to the GESAMP Composite List (PPR 1/Circ.5, annex 4).

Existing substances

2.4 With regard to existing substances, the Group noted that:

- .1 GESAMP/EHS 55 had reviewed GHP ratings for four existing substances, based on new data received or on a review of existing data, and had amended the hazard ratings accordingly; and
- .2 the revised GHPs had been duly included in the updated GESAMP Composite List.

Products submitted by industry to GESAMP/EHS 54 for review of the C3 rating

2.5 The Group recalled that GESAMP/EHS 54, having received a request from industry to review the C3 ratings for a number of products, had noted that further information would be needed for it to consider these products.

2.6 In this regard, the Group noted that GESAMP/EHS 55, having received no further submissions in this matter, had agreed to suspend any further consideration of those products until such time as the information specified by GESAMP/EHS 54 was submitted.

Classification issues

Introduction of new column E1 on flammability

2.7 The Group recalled that GESAMP/EHS 54 had agreed to remove all tainting information currently included in column E1 of the GESAMP Hazard Profile and had also agreed to reassign column E1 for the purposes of capturing the flashpoint and flammability hazards of chemicals (refer to PPR.1/Circ.4, annexes 4 and 5).

2.8 The Group noted that further to the above mentioned developments and as requested by PPR 5, GESAMP/EHS 55 had considered and discussed the comments and reservations of the ESPH Working Group that had met during PPR 5, in relation to the proposed flammability ratings, and had agreed to suitable new ratings of the flammability hazard, as shown in annex 6 to PPR.1/Circ.5 and reproduced below.

Rating*	Description	Flashpoint temperature range (°C)	
0	Not Flammable (does not burn)	-	
1	Low Flammability Potential	>93	
2	Combustible	>60	≤93
3	Flammable	≥23	≤60
4	Highly Flammable	<23	

* NI indicates that insufficient flashpoint data were available to allow a rating

2.9 The Group also noted that GESAMP/EHS 55 had agreed to incorporate the above table in the revised draft GESAMP Reports and Studies No.64. In this regard, the Group was informed that GESAMP/EHS 55 had continued its review of flashpoint information for products, as extracted from the GISIS database, and had agreed to continue the review intersessionally, with a view to completing the work at GESAMP/EHS 56 for incorporation in the Composite List once the revised Reports and Studies No.64 had been published.

2.10 The Group noted that, as a consequence of the reassignment of column E1, appendix 1 to MARPOL Annex II would have to be amended after the publication of GESAMP Reports and Studies No.64.

2.11 Having recalled that the flammability rating had been developed by the GESAMP/EHS Working Group primarily to assist emergency responders, the Group agreed that there was no need to modify chapter 21 of the IBC Code to include references to the E1 ratings, having also taken into account that the flashpoint was reported in the PPR product data reporting forms.

Cut-off values to be used when assessing mixtures containing components with a long-term health effect

2.12 The Group recalled that PPR 5 had requested GESAMP/EHS 55 to consider the proposal in document PPR 5/3/3 (Norway) and advise the ESPH Working Group with regard to recommended cut-off values to be used when assessing mixtures containing components with a long-term health effect.

2.13 The Group noted that due to time constraints, GESAMP/EHS 55 had been unable to finalize the requested advice. However, the Group also noted that, as part of the revision of GESAMP Reports and Studies No.64, the GESAMP/EHS Working Group had developed text describing the procedure used by it for assigning ratings to mixtures for all columns, including column D3. The Group further noted that GESAMP/EHS 55 had agreed that the relevant text from the revised GESAMP Reports and Studies No.64 would form the basis for developing a simplified recommendation at GESAMP/EHS 56 for consideration by the ESPH Working Group.

Revision of GESAMP Reports and Studies No.64

2.14 The Group was informed that GESAMP/EHS 55 had comprehensively reviewed the draft revision of GESAMP Reports and Studies No.64 and had concluded that all technical and scientific matters had been considered sufficiently and to the satisfaction of the GESAMP/EHS Working Group members.

2.15 The Group noted that GESAMP/EHS 55 had invited GESAMP to consider assigning a new number to the Reports and Studies once approved. The Group also noted that GESAMP/EHS 55 had requested the Secretariat to take the appropriate action for the draft revision of GESAMP Reports and Studies No.64 to be published in time for the 50th anniversary of GESAMP in 2019 and preferably before GESAMP/EHS 56.

OUTCOME OF MEPC 72 AND MSC 99**Model form of the certificates of fitness**

2.16 The Group noted that MEPC 72 and MSC 99 had adopted the proposed amendments to the model forms of certificates of fitness of the IBC and BCH Codes (resolutions MEPC.302(72) and MEPC.303(72)).

ESPH 25

2.17 The Group was informed that MEPC 72 had endorsed the holding of an intersessional meeting of the ESPH Working Group in 2019 (ESPH 25), and that the Council had approved the Committee's decision.

3 EVALUATION OF PRODUCTS

3.1 The Group recalled that submissions for the evaluation of products should always be made using the PPR Product Data Reporting Form, noting that a revision of the form had been finalized at ESPH 20 and approved at MEPC 68, and subsequently circulated as MEPC.1/Circ.857. The Group further noted that this form was also available for download from the IMO website.¹

¹ <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/ChemicalPollution/Pages/ChemicalsReportingForms.aspx>

3.2 The Group also recalled that when making submissions, it was important to ensure that all necessary data was included and that the proposed classification and carriage requirements were consistent with the data provided. The Group further recalled that should there be any deficiencies in the information provided, it had been instructed by the PPR Sub-Committee to reject such products for inclusion in the MEPC.2/Circular until the full complement of required data had been submitted.

3.3 The Group noted that nine products had been submitted for its consideration for inclusion or revision in list 1, as follows:

- .1 Creosote (coal tar) (C8-C22, MW 116-278), submitted by Japan (ESPH 24/3/2);
- .2 1,3,5-Hexahydrotriethanol-1,3,5-triazine, submitted by Norway (ESPH 24/3/18);
- .3 Hexahydro-1,3,5-trimethyl-1,3,5-triazine solution (45% or less) submitted by Norway (ESPH 24/3/21);
- .4 Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%), submitted by Finland (ESPH 24/3/27);
- .5 Bio-fuel blends of Naphtha/Gasolines and Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%) (>25% but <99% by volume), submitted by Finland (ESPH 24/3/27, annex 1);
- .6 Alkanes (C9-C24) linear, branched and cyclic (flashpoint $\leq 60^{\circ}\text{C}$), submitted by Finland (ESPH 24/3/28);
- .7 Alkanes (C9-C24) linear, branched and cyclic (flashpoint $> 60^{\circ}\text{C}$), submitted by Finland (ESPH 24/3/28);
- .8 Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint $\leq 60^{\circ}\text{C}$) (>25% but <99% by volume), submitted by Finland (ESPH 24/3/28, annex 1); and
- .9 Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint $> 60^{\circ}\text{C}$) (>25% but <99% by volume), submitted by Finland (ESPH 24/3/28, annex 1).

3.4 The Group also noted that two products had been submitted for its consideration for inclusion or revision in list 2, as follows:

- .1 SCW85902KCL, submitted by the United Kingdom (ESPH 24/3/16); and
- .2 SOLVTREAT 13860 submitted by Norway (ESPH 24/3/25).

3.5 The Group further noted that there were 21 new product submissions for evaluation as list 3 substances to this session, as follows:

- .1 OLOA 54013, submitted by France (ESPH 24/3);
- .2 OLOA 59770, submitted by France (ESPH 24/3/1);
- .3 Lubrizol AP 13168, submitted by the United States (ESPH 24/3/3);

- .4 Chevron OLOA275JR, submitted by the United States (ESPH 24/3/4);
- .5 Shell Chemical ENORDET O332, submitted by the United States (ESPH 24/3/5);
- .6 Lubrizol 4980A, submitted by the United States (ESPH 24/3/6);
- .7 Lubrizol CV2307, submitted by the United States (ESPH 24/3/7);
- .8 Lubrizol FC8051X, submitted by the United States (ESPH 24/3/8);
- .9 Lubrizol FC9050, submitted by the United States (ESPH 24/3/9);
- .10 Lubrizol FC9052X, submitted by the United States (ESPH 24/3/10);
- .11 Lubrizol MAR 515U, submitted by the United States (ESPH 24/3/11);
- .12 EC6004A, submitted by the United Kingdom (ESPH 24/3/12);
- .13 CGW80742P, submitted by the United Kingdom (ESPH 24/3/13);
- .14 Petrosweet HSW85986, submitted by the United Kingdom (ESPH 24/3/14);
- .15 Forsa™ SCW85902 Scale Inhibitor, submitted by the United Kingdom (ESPH 24/3/15);
- .16 FX2886 and PARA16592A, submitted by the United Kingdom (ESPH 24/3/17);
- .17 GT-7538, submitted by Norway (ESPH 24/3/19);
- .18 GT-7599, submitted by Norway (ESPH 24/3/20);
- .19 MEG with up to 1.9% NaOH, submitted by Norway (ESPH 24/3/22);
- .20 SD-4206, submitted by Norway (ESPH 24/3/23); and
- .21 SCALETREAT 14345, submitted by Norway (ESPH 24/3/24).

PURE OR TECHNICALLY PURE PRODUCTS AND MIXTURES ASSESSED AS A WHOLE (LIST 1)

3.6 The results of the Group's deliberations with regard to the evaluation of list 1 products are set out in paragraphs 3.7 to 3.20.

Creosote (coal tar) (C8-C22, MW 116-278)

3.7 The Group considered document ESPH 24/3/2 (Japan), setting out the proposed carriage requirements for "Creosote (coal tar) (C8-C22, MW 116-278)", and agreed to the carriage requirements, amended as follows: the addition of 16.2.6 to column o. Further to the above modification, the Group agreed to include the product in list 1 of the MEPC.2/Circular for all countries and without an expiry date.

[[[(Phosphonomethyl)imino] bis[ethylenenitrilobis (methylene)]] tetrakisphosphonic acid, ammonium salt solution (60% or less), submitted as Forsa™ SCW85902 Scale Inhibitor

3.8 With regard to the trade-named product "Forsa™ SCW85902 Scale Inhibitor", which had been submitted for consideration and inclusion in list 3 of the MEPC.2/Circular (ESPH 24/3/15), the delegation of the United Kingdom requested that the Group disregard the trade name and instead consider the product for inclusion in list 1 under the product name "[[(Phosphonomethyl)imino] bis[ethylenenitrilobis (methylene)]] tetrakisphosphonic acid, ammonium salt solution (60% or less)".

3.9 Following consideration, the Group agreed to the above approach and to the proposed carriage requirements set out in document ESPH 24/3/15, adapted for list 1 of the MEPC.2/Circular (i.e. no "contains name" and no "company"). Accordingly, the Group agreed to include this product in list 1 of the MEPC.2/Circular for all countries and without an expiry date.

3.10 The Group also agreed to the following synonyms for the above product:

- .1 Ammonium hydrogen [10,10-dihydroxy-10-oxido-2,5,8-tris(phosphonomethyl)-2,5,8-triaza-10-phosphadec-1-yl]phosphonate solution;
- .2 Diethylenetriaminepentakis(methylphosphonic acid), ammonium salt solution; and
- .3 [[(phosphonomethyl)imino]bis[ethane-2,1-diyl]nitrilobis(methylene)]]tetrakis phosphonic acid solution.

1,3,5-Hexahydrotriethanol-1,3,5-triazine solution, submitted as 1,3,5-Hexahydro triethanol-1,3,5-triazine

3.11 The Group considered document ESPH 24/3/18 (Norway), setting out the proposed carriage requirements for "1,3,5-Hexahydrotriethanol-1,3,5-triazine", and agreed to the carriage requirements, with the following modification: the addition of word "solution" to the product name. Further to the above modification, the Group agreed to include the product in list 1 of the MEPC.2/Circular for all countries and without an expiry date. The Group also agreed to the following synonym: Ethanoltriazine solution.

3.12 It was further agreed that the corresponding entry would be deleted from list 5 of the MEPC.2/Circular.

Hexahydro-1,3,5-trimethyl-1,3,5-triazine solution (45% or less)

3.13 The Group considered document ESPH 24/3/21 (Norway), setting out the proposed carriage requirements for "Hexahydro-1,3,5-trimethyl-1,3,5-triazine solution (45% or less)", and agreed to the carriage requirements without modifications. The Group also agreed to the addition of the following synonym for the product: 1,3,5-trimethyl-1,3,5-triazine solution (45% or less). Subsequently, the Group agreed to include the product in list 1 of the MEPC.2/Circular for all countries and without an expiry date.

Linear, branched and cyclic alkanes and their blends

Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%)

3.14 Having considered the document submitted by Finland for "Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%)" (ESPH 24/3/27), the Group agreed to the proposed carriage requirements without modification.

Bio-fuel blends of Naphtha/Gasolines and Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%) (>25% but <99% by volume)

3.15 The Group also considered annex 1 to document ESPH 24/3/27 (Finland), setting out the proposed carriage requirements for "Bio-fuel blends of Naphtha/Gasolines and Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%) (>25% but <99% by volume)", and agreed to the carriage requirements as proposed without modification.

Alkanes (C9-C24) linear, branched and cyclic (flashpoint ≤60°C) and Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C)

3.16 Having considered the document submitted by Finland for "Alkanes (C9-C24) linear, branched and cyclic (flashpoint ≤60°C)" and "Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C)" (ESPH 24/3/28), the Group agreed to the proposed carriage requirements without modification.

Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint ≤60°C) (>25% but <99% by volume) and Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C) (>25% but <99% by volume)

3.17 The Group also considered annex 1 to document ESPH 24/3/28 (Finland), which set out the proposed carriage requirements for both "Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint ≤60°C) (>25% but <99% by volume)" and "Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C) (>25% but <99% by volume)". The Group, having corrected the product names (i.e. replaced "Naphtha/Gasolines" with "Diesel/Gas oil"), agreed to the proposed carriage requirements with no further modifications.

Synonyms

3.18 With regard to synonyms for the above products submitted by Finland (see paragraphs 3.14 to 3.17), the Group decided not to use the proposed synonyms.

Conditional inclusion in the MEPC.2/Circular

3.19 The Group agreed to the inclusion of the above products submitted by Finland (see paragraphs 3.14 to 3.17) in list 1 of the MEPC.2/Circular with validity for all countries and with no expiry date, should MEPC 73 not approve the draft Guidelines for energy-rich fuels and their blends.

Full set of assigned carriage requirements for list 1 products

3.20 The full set of assigned carriage requirements for the list 1 products considered and agreed by the Group are set out in annex 1.

LIST 2: POLLUTANT-ONLY MIXTURES CONTAINING AT LEAST 99% BY WEIGHT OF COMPONENTS ALREADY ASSESSED BY IMO
SCW85902KCL

3.21 For SCW85902KCL, the Group concluded, based on the information submitted by the United Kingdom (ESPH 24/3/16), that the product did not present any safety hazards and that accordingly, it should be placed on list 2 of the MEPC.2/Circular (Pollutant-only mixtures). In this regard, the following entry details were agreed:

Tradename:	SCW85902KCL
n.o.s.:	11
Contains name:	[[[(Phosphonomethyl)imino]bis[ethylenenitrilobis (methylene)]] tetrakisphosphonic acid, ammonium salt solution (60% or less)
Reporting country:	United Kingdom
Receive Date:	5 October 2018
Category:	Z
Ship type:	NA
Company:	Baker Hughes

SOLVTREAT 13860

3.22 For SOLVTREAT 13860, the Group concluded, based on the information submitted by Norway (ESPH 24/3/25), that the product did not present any safety hazards and that accordingly, it should be placed on list 2 of the MEPC.2/Circular (Pollutant-only mixtures), having noted that the corresponding entry in list 4 would be deleted. In this regard, the following entry details were agreed:

Tradename:	SOLVTREAT 13860
n.o.s.:	11
Contains name:	Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether
Reporting country:	Norway
Receive Date:	5 October 2018
Category:	Z
Ship type:	NA
Company:	Clariant Oil Services Scandinavia AS

TRADE-NAMED MIXTURES PRESENTING SAFETY HAZARDS (LIST 3)

3.23 The Group recalled that it had confirmed some general principles and data requirements with regard to the preparation of submissions and data requirements for the purpose of assessment of list 3 trade-named mixtures by the Group, to ensure a consistent and harmonized approach (PPR 3/3/2, paragraphs 3.23 and 3.43). In this regard the Group reconfirmed the need to ensure that a full set of data was provided for each product.

3.24 The Group further recalled that it had also agreed that delegations were required to submit complete mixture calculation sheets for their proposed list 3 products to the Secretariat at the time of submission of their corresponding documents. In this regard, the Group emphasized the importance of including the carriage requirements for each of the components in the mixture calculation sheets.

3.25 The Group underscored that, as per the usual practice, the mixture calculation information would continue to be treated as confidential by the Secretariat and used only for the purposes of advance meeting preparations and not for dissemination to delegations. Consequently, if detailed information for list 3 products was needed by a Member State in advance of the meeting, this could be made available upon request to the submitting Member State, under confidential terms.

3.26 The results of the Group's evaluation of trade-named mixtures are set out in paragraphs 3.27 to 3.52.

OLOA 54013

3.27 The Group considered document ESPH 24/3 (France) setting out the proposed carriage requirements for OLOA 54013. The Group agreed to the carriage requirements as proposed without modification. Consequently, the Group agreed to include this product in list 3 of the MEPC.2/Circular for all countries and without an expiry date.

OLOA 59770

3.28 The Group considered document ESPH 24/3/1 (France) setting out the proposed carriage requirements for OLOA 59770. The Group agreed to the carriage requirements as proposed without modification. Consequently, the Group agreed to include this product as an entry in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

Lubrizol AP 13168

3.29 Having considered the document submitted by the United States for Lubrizol AP 13168 (ESPH 24/3/3), the Group agreed to the inclusion of the product in list 3 of the MEPC.2/Circular, with validity for all countries and with no expiry date, with carriage requirements as proposed, without modification.

OLOA275JR, submitted as Chevron OLOA275JR

3.30 The Group considered document ESPH 24/3/4 (United States) and noted the request by the delegation of the United States to delete "Chevron" from the product name. The Group concurred with the proposed carriage requirements for OLOA275JR, amended as follows: column i' modified from "T3" to "-" and "15.9.6" replaced by "15.19.6" in column o. Further to the aforementioned modifications, the Group agreed to include this product in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

ENORDET O332, submitted as Shell Chemical ENORDET O332

3.31 The Group considered document ESPH 24/3/5 (United States) and noted the request by the delegation of the United States to delete "Shell Chemical" from the product name. Further to the aforementioned modification, the Group agreed to the carriage requirements as otherwise proposed, and also agreed to include ENORDET O332 as an entry in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

Lubrizol 4980A

3.32 Having considered the document submitted by the United States for Lubrizol 4980A (ESPH 24/3/6), the Group agreed to the inclusion of the product in list 3 of the MEPC.2/Circular, with validity for all countries and with no expiry date, with carriage requirements as proposed and without modification.

Lubrizol CV2307

3.33 The Group considered document ESPH 24/3/7 (United States), setting out the proposed carriage requirements for Lubrizol CV2307. The Group agreed to the carriage requirements as proposed, without modification. Consequently, the Group agreed to include this product in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

Lubrizol FC8051X

3.34 Having considered the document submitted by the United States for Lubrizol FC8051X (ESPH 24/3/8), the Group concurred with the proposed carriage with the following modification: column i' modified from "T2" to "-". Further to the aforementioned modification, the Group agreed to include this product in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

Lubrizol FC9050

3.35 The Group considered document ESPH 24/3/9 (United States), setting out the proposed carriage requirements for Lubrizol FC9050. The Group agreed to the carriage requirements as proposed, with the following modification: column i' modified from "T2" to "-". Further to the aforementioned modification, the Group agreed to include this product in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

Lubrizol FC9052X

3.36 The Group considered document ESPH 24/3/10 (United States), setting out the proposed carriage requirements for Lubrizol FC9052X. The Group agreed to the carriage requirements as proposed, with the following modification: column i' modified from "T2" to "-". Further to the aforementioned modification, the Group agreed to include this in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

Lubrizol MAR 515U

3.37 Having considered the document submitted by the United States for Lubrizol MAR 515U (ESPH 24/3/11), the Group agreed to the carriage requirements as proposed, with the following modifications: column i' modified from "T2" to "-"; "15.9.6" replaced by "15.19.6" and "16.2.9" added in column o. Further to the aforementioned modifications, the Group agreed to include this product in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

EC6004A

3.38 The Group considered document ESPH 24/3/12 (United Kingdom) setting out the proposed carriage requirements for EC6004A. The Group noted that the proposed trade-named product had previously been fully assessed under the trade names R-50359 and ACPC26004A and that the manufacturer had requested that the two existing trade names be retained on list 3 of MEPC.2/Circ. for commercial reasons.

3.39 The Group also noted that the provisional assessment of EC6004A had been carried out based on the latest GHP for "Naphthalene (molten)" (PPR.1/Circ.5) and in accordance with MEPC.1/Circ.512 and the draft revised chapter 21 of the IBC Code, to ensure compliance with the latest assessment criteria. The Group concurred with the carriage requirements for EC6004A as proposed, with the following modification: "15.19" replaced by "15.19.6" in column o. Further to the aforementioned modification, the Group agreed to include EC6004 in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

3.40 The Group instructed the Secretariat to update the carriage requirements for R-50359 and ACPC26004A to match the carriage requirements of EC6004A at the time of MEPC.2/Circ.24 being issued.

CGW80742P

3.41 The Group considered document ESPH 24/3/13 (United Kingdom) setting out the proposed carriage requirements for CGW80742P. The Group agreed to the carriage requirements as proposed, with the following modification: the "contains" entry was corrected according to EHS 2508 (i.e. "Tall oil fatty acids reaction products with 2-[(2-aminoethyl) ethanol, di-ethyl sulphate quaternized " was replaced by "Tall oil fatty acids reaction products with 2-[(2-aminoethyl)amino]ethanol, di-ethyl sulphate quaternized"). Further to the aforementioned modification, the Group agreed to include this product as an entry in list 3 of the MEPC.2/Circular for all countries and without an expiry date.

3.42 It was further agreed that entries would be included in list 5 of the MEPC.2/Circular for the following components of CGW80742P, noting that they were components of a mixture and not shipped in pure form:

- .1 Tall oil fatty acids reaction products with 2-[(2-aminoethyl)amino]ethanol, di-ethyl sulphate quaternized;
- .2 Imidazolium compounds, 1-benzyl-4,5-dihydro-1-(hydroxyethyl)-2-norcoalkyl, chlorides;
- .3 Pyridinium, 1-(phenylmethyl)-, ethyl methyl derivs., chlorides; and
- .4 Poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy-, phosphate.

Petrosweet HSW85986

3.43 The United Kingdom withdrew document ESPH 24/3/14 on the grounds that the product could be shipped under the new list 1 product "Hexahydro-1,3,5-trimethyl-1,3,5-triazine solution (45% or less)" that had been submitted by Norway (ESPH 24/3/21) (see paragraph 3.13 also). The Group took note of this information.

Forsa™ SCW85902 Scale Inhibitor

3.44 The Group recalled that it had agreed to not list the trade-named product Forsa™ SCW85902 Scale Inhibitor in list 3 of the MEPC.2/Circular but instead include it in list 1 under the product name "[[(Phosphonomethyl)imino] bis[ethylenenitrilobis (methylene)]] tetrakis-phosphonic acid, ammonium salt solution (60% or less)" (see also paragraph 3.8).

FX2886 and PARA16592A

3.45 The Group considered document ESPH 24/3/17 (United Kingdom) setting out the proposed carriage requirements for the product FX2886, which was also marketed as PARA16592A. The Group agreed to the carriage requirements as proposed without modification. Consequently, the Group agreed to include two entries with the same carriage requirements in list 3 of the MEPC.2/Circular for the product, one for the trade name FX2886 and another for the trade name PARA16592A, with validity for all countries and without expiry dates.

GT-7538

3.46 The Group considered document ESPH 24/3/19 (Norway), setting out the proposed carriage requirements for GT-7538. The Group agreed to the carriage requirements as proposed without modification. Consequently, the Group agreed to include this product in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

GT-7599

3.47 Having considered the document submitted by Norway (ESPH 24/3/20), setting out the proposed carriage requirements for GT-7599, the Group concurred with the carriage requirements as proposed without modification. Consequently, the Group agreed to include this product in list 3 of the MEPC.2/Circular with validity for all countries and without an expiry date.

CM-9824, submitted as MEG with up to 1.9% NaOH

3.48 The Group considered document ESPH 24/3/22 (Norway) setting out the proposed carriage requirements for MEG with up to 1.9% NaOH and noted that the trade name had been changed to CM-9824. The Group agreed to the proposed carriage requirements with the following modification: the addition of "15.19.6" to column o. Further to the aforementioned modifications, the Group agreed to include CM-9824 in list 3 of the MEPC.2/Circular for all countries and without an expiry date.

SD-4206

3.49 Having considered the document submitted by Norway (ESPH 24/3/23), setting out the proposed carriage requirements for SD-4206, the Group agreed to the carriage requirements as proposed without modification. Consequently, the Group agreed to include this product as an entry in list 3 of the MEPC.2/Circular for all countries and without an expiry date.

3.50 During consideration of the data in the PPR product data reporting form for SD-4206, the Group noted that some of the components could potentially react chemically with each other. While this observation did not affect the proposed carriage requirements in this case, the Group agreed that manufacturers should provide information on the final composition of mixtures as far as practicable, rather than simply providing the initial "recipe" chemicals.

SCALETREAT 14345

3.51 The Group considered document ESPH 24/3/24 (Norway), setting out the proposed carriage requirements for SCALETREAT 14345 and agreed to the carriage requirements as proposed without modification. Consequently, the Group agreed to include this product in list 3 of the MEPC.2/Circular for all countries and without an expiry date.

Full set of assigned carriage requirements for list 3 products

3.52 The full set of assigned carriage requirements for the products submitted for inclusion in list 3 are set out in annex 2.

VAPOUR-RELATED CARRIAGE REQUIREMENTS FOR NON-VOLATILE CORROSIVE PRODUCTS

3.53 The Group considered document ESPH 24/3/26 (Norway), which proposed that the Group reconsider the requirements for controlled venting and increased ventilation rates for non-volatile corrosive products in a similar manner as had been done at PPR 5 for non-volatile toxic products.

3.54 In this context, the Group recalled that the ESPH Working Group at PPR 5 had agreed to follow, on a case-by-case basis, a similar approach for non-volatile solid substances transported in aqueous solutions as had been used in the case of inorganic brines (see BLG.1/Circ.33, annex, paragraph 10) in relation to inhalation toxicity when the SVC/LC₅₀ ratio could not be calculated due to the exact vapour pressure of the solid not being available.

3.55 The Group further recalled that the rationale behind the above-mentioned decision was that, in general, the vapour pressure of solid substances is very low and only water vapour (i.e. non-toxic vapours) would be emitted when transporting such non-volatile solid substances in aqueous solution.

3.56 Subsequently, the Group agreed that the same rationale could be extended, on a case-by-case basis, to non-volatile corrosive solid substances transported in aqueous solutions. Specifically, it would be applicable when considering vapour-related requirements such as whether controlled or open venting arrangements should be assigned (column g of chapter 17 of the IBC Code) or whether or not increased ventilation would be required (paragraph 15.17 of the IBC Code). The Group also agreed to amend paragraph 10 of the annex to BLG.1/Circ.33 accordingly during the process of revising the circular under agenda item 7 (see annex 5).

3.57 The Group noted that, had the above decision regarding non-volatile corrosive solid substances been reached before or during PPR 5, less stringent requirements could have been assigned in columns g and o (i.e. "Open" in column g, "No" in column n and no "15.17" in column o) for "Potassium hydroxide solution", "Sodium borohydride (15% or less)/sodium hydroxide", "Sodium chlorate solution (50% or less)", "Potassium formate solutions" and "Sodium hydroxide solution" in the draft revised chapter 17 of the IBC Code (PPR 5/24/Add.1).

3.58 In this regard, the Group suggested that the delegation of Norway could submit a document to MEPC 74 and MSC 101 proposing that the carriage requirements in columns g, n and o for "Potassium hydroxide solution", "Sodium borohydride (15% or less)/sodium hydroxide", "Sodium chlorate solution (50% or less)", "Potassium formate solutions" and "Sodium hydroxide solution" be modified prior to the adoption of the draft revised chapter 17 of the IBC Code.

4 EVALUATION OF CLEANING ADDITIVES

4.1 The Group recalled that MARPOL Annex II, regulation 13, *Provisions on the control of discharge of Noxious Liquid Substances*, imposes restrictions on the cleaning additives permitted for use in tank washing operations.

4.2 The Group further recalled that, as a consequence, cleaning additives must be assessed in accordance with the provisions of the *Revised tank cleaning additives guidance note and reporting form* (MEPC.1/Circ.590) and included in the MEPC.2/Circular before they can be used in tank cleaning operations.

4.3 The Group noted that 37 cleaning additives had been submitted to this session for evaluation. In line with normal practice, in order to preserve the confidentiality of the composition of such additives, the products were evaluated by a sub-group made up of representatives of Member States only.

4.4 The delegations of Chile, France, Germany, Japan, the Netherlands, South Africa, the United Kingdom and the United States were represented in the sub-group.

4.5 The sub-group reported that the composition and documentation for 30 cleaning additives submitted met the criteria set out in MEPC.1/Circ.590. Other products were rejected for the following reasons: not for cleaning of noxious liquid substance (NLS) products, cleaning of IMSBC Code products or where already listed in the IBC Code. The list of approved cleaning additives meeting the assessment criteria set out in table 1 of annex 3. The list of cleaning additives already listed in annex 10 of MEPC.2/Circ.23 for which the name of the manufacturer and the reporting country have been amended is set out in table 2 of annex 3.

4.6 The sub-group reconfirmed that the submission of Safety Data Sheets (SDS) for the cleaning additives and their components, whilst not required, was recommended, as these provide useful details that assist in the evaluation process. In addition, it was emphasized that the instruction sheet should have a clear description regarding the use of the additive to clean NLS products in the IBC Code. It was also noted that the title names of a number of proposed cleaning additives referred to cleaning items and products not listed in the IBC Code.

4.7 The Group recalled that Member States that had submitted cleaning additives for evaluation in accordance with MEPC.1/Circ.590 were advised to retain records of the information submitted, as no records were retained by the Secretariat for cleaning additives, in order to preserve formulation confidentiality.

4.8 The Group expressed its appreciation to the members of the sub-group for their work in evaluating the submitted cleaning additives.

5 REVIEW OF MEPC.2/CIRCULAR – PROVISIONAL CLASSIFICATION OF LIQUID SUBSTANCES TRANSPORTED IN BULK AND OTHER RELATED MATTERS

5.1 The Group recalled that this was a regular item on its agenda under which it considered provisional drafts of the product lists contained in the MEPC.2/Circular, prior to its dissemination in December of each year.

5.2 The Group considered document ESPH 24/5 (Secretariat), containing a partial draft of MEPC.2/Circ.24, which included all new entries for tripartite agreements communicated to the Secretariat since the last issue of the MEPC.2/Circular in December 2017; all new product entries or amendments to existing entries, as agreed at PPR 5; and any other amendments to entries communicated to the Secretariat during the year.

5.3 The Group noted that any changes that had been introduced in the draft circular since it was last issued as MEPC.2/Circ.23 were highlighted for easy reference in the respective product lists.

5.4 The Group recalled that products under the provisions of a tripartite agreement that had reached their expiry date without having been assessed by the ESPH Working Group would be duly removed from the circular. The Group noted that those products set to expire in December 2018 could not be shipped beyond their expiry date, and could not be shipped again until they were fully assessed by the ESPH Working Group.

5.5 In this connection, the Group noted that tripartite agreements for 50 products were set to expire in December 2018, as set out below, and that those marked with an asterisk had been submitted to this session for evaluation by the Group.

List 1

- .1 Alkanes (C4-C12) linear, branched and cyclic (Finland)*
- .2 Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C) (Finland)*
- .3 Alkanes (C9-C24) linear, branched and cyclic (flashpoint ≤ 60°C) (Finland)*
- .4 Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic with a flashpoint >60°C (>25% but <99% by volume) (Finland) *
- .5 Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic with a flashpoint ≤60°C (>25% but <99% by volume) (Finland) *
- .6 Bio-fuel blends of Gasoline and Alkanes (C4-C12), linear, branched and cyclic (>25% but <99% by volume) (Finland) *
- .7 Bio-fuel blends of Naphtha and Alkanes (C4-C12) linear, branched and cyclic (>25% but <99% by volume) (Finland)*

List 3

- .1 AP 1356 (United States)
- .2 AP 13168 (United States)*
- .3 AP13325 (United States)
- .4 DCA-25014 (Norway)
- .5 EC6004A (United Kingdom)*
- .6 Enordet 0332 (United States)*
- .7 Ethylol 78 eM (South Africa)
- .8 FX2886 (United Kingdom)*
- .9 GT-7538 (Norway)*
- .10 GT-7599 (Norway)*
- .11 HR-2709 (Norway)
- .12 HR-2737 (Norway)
- .13 HSW85972 (United Kingdom)
- .14 Lubrizol 4980A (United States)*
- .15 Lubrizol 9245 (United States)
- .16 Lubrizol B146363 (United States)
- .17 Lubrizol CV2307 (United States)*
- .18 Lubrizol CV7060 (United States)
- .19 Lubrizol FC8051X (United States)*
- .20 Lubrizol FC9050 (United States)*
- .21 Lubrizol FC9052X (United States)*
- .22 MAR 515U (United States)*
- .23 MEG with up to 1.9% NaOH; Sodium hydroxide solution (Norway)*
- .24 OLOA 275JR (United States)*
- .25 OLOA 54013 (France)*
- .26 OLOA 59770 (France)*
- .27 PETROSWEET HSW85986 (United Kingdom)*
- .28 PHASETREAT 13890 (Norway)
- .29 R09860A (Singapore)
- .30 R11699A (Singapore)
- .31 R11762A (Singapore)
- .32 R11763A (Singapore)
- .33 SCALETREAT 13950 (Norway)
- .34 SCALETREAT 14345 (Norway)*
- .35 SCALETREAT TP 12517 (Norway)
- .36 SCAVTREAT 1031 (Norway)

- .37 SCAVTREAT 7103 (Norway)
- .38 SCW85902 in KCL (United Kingdom)*
- .39 SD-4206 (Norway)*
- .40 Surfatron DP-177 (United States)
- .41 Talupac (Singapore)
- .42 TALUPAC B (United States)

List 4

- .1 SOLVTREAT 13860 (Norway)*

Tripartite agreements expiring in 2019

5.6 To provide the necessary lead time to manufacturers to have their products assessed in good time, the Group also noted that the tripartite agreements for the following products would expire in 2019:

List 1

- .1 Alkylphenols (C10-C18, C12 rich) (United States)
- .2 Ammonium bisulphite solution (70% or less) (United States)
- .3 [[(phosphonomethyl)imino]bis[ethylenenitrilobis(methylene)]]tetrakisphosphonic acid, ammonium salt solution (34% or less) (United States) (see also paragraph 5.10)
- .4 Polyethyleneimine solution (33% or less) (United States)

List 3

- .1 Alcoa CARP (United States)
- .2 Assure® HI-90 (United Kingdom)
- .3 Assure® HI-95 (United Kingdom)
- .4 CORRTREAT 12896 (Norway)
- .5 Cortron CK929-G (United Kingdom)
- .6 CRW85826D (United Kingdom)
- .7 DMO86906 (United Kingdom)
- .8 Halliburton AS-9 (United States)
- .9 Halliburton A-SPERSE (United States)
- .10 Halliburton HAI-82 (United States)
- .11 Halliburton MUSOL A (United States)
- .12 HITEC 9345P (Belgium)
- .13 HR-2510 (Norway)
- .14 HYDT10900A (United Kingdom)
- .15 HYDT10950A (United Kingdom)
- .16 LUBAD 1887 (Singapore)
- .17 LUBRIZOL CV6530 (United States)
- .18 Lubrizol MD9C08X (United States)
- .19 Lubrizol MD9C70X (United States)
- .20 Lubrizol PV7601 (United States)
- .21 Lubrizol PV9121 (United States)
- .22 Lubrizol PV9121S (United States)
- .23 MAR660P (Singapore)
- .24 NORLIG SA LIQUID (South Africa)
- .25 OLOA 273 Distillate (France)
- .26 OLOA 16310 (Singapore)
- .27 SCW85780 (United Kingdom)
- .28 SD-4820 (Norway)
- .29 SI-4126 (Norway)

- .30 SI-4142 (Norway)
- .31 SI-54 (Norway)
- .32 SI-4168 (Norway)
- .33 Talumar B (United States)
- .34 Talumar R (United States)

List 4

- .1 SCALETREAT 12675 (United Kingdom)
- .2 SCW83263 (United Kingdom)
- .3 SCW85902 (United Kingdom) (see also paragraph 5.10)

5.7 Having noted the products set to expire, the Group invited delegations to take action, as appropriate. The Group further noted that if new GESAMP Hazard Profiles were required for any of these products, or their components, they would need to be submitted to GESAMP/EHS 56, provisionally scheduled to take place from 8 to 12 April 2019, with a document submission deadline of 15 February 2019.

Draft MEPC.2/Circ.24

5.8 The Group noted that all entries corresponding to new tripartite agreements were highlighted in full in the product lists, as set out in the annexes to document ESPH 24/5.

5.9 The Group highlighted a number of amendments and corrections to be made to the draft lists, and noted that these would be taken on board by the Secretariat prior to dissemination of the circular.

5.10 In particular, the Group was informed by the delegation of the United Kingdom that the entry for SCW85902 should be deleted and not appear in list 4 of the next edition of the MEPC.2/Circular (MEPC.2/Circ.24), as it could be shipped using the new list 1 entry for "[[(Phosphonomethyl) imino]bis[ethylenenitrilobis(methylene)]] tetrakisphosphonic acid, ammonium salt solution (60% or less)" (see paragraphs 3.8 and 3.9). The delegation of the United States also informed the Group that the entry for "[[(phosphonomethyl)imino]bis[ethylenenitrilobis(methylene)]] tetrakisphosphonic acid, ammonium salt solution (34% or less)" should be deleted and not appear in list 1 of MEPC.2/Circ.24 for the same reason.

5.11 With regard to the entries for "Gasadd" and "GASADD 1-5", the Group agreed that they should be deleted from list 2 of the MEPC.2/Circular, as they contained methyl alcohol, which poses safety hazards based on the latest GHP. The Group noted that in order for shipment of "Gasadd" and "GASADD 1-5" to continue after 1 December 2018, a tripartite agreement would have to be established for inclusion in list 3 of the MEPC.2/Circular.

5.12 The Group noted that the deadline for receipt of tripartite agreements for inclusion in MEPC.2/Circ.24 would be **Friday, 16 November 2018**.

Clarification on the implementation of the MEPC.2/Circular

5.13 The Group had for its consideration document ESPH 24/5/1 (OCIMF), regarding the entries for paraffin-like cargoes in chapter 17 of the IBC Code which had been renamed in line with the names agreed by GESAMP/EHS 54 (ESPH 23/2/1, paragraph 12).

5.14 The Group recalled that ESPH 23 had agreed for the following four entries to be introduced in list 1 of the MEPC.2/Circular (PPR 5/3, paragraph 3.7):

- .1 "n-Alkanes (C10 – C20)", corresponding to the chapter 17 entry "n-Alkanes (C10+)";
- .2 "Paraffin wax, highly-refined", corresponding to the chapter 17 entry "Paraffin wax";
- .3 "Paraffin wax, semi-refined", corresponding to the chapter 17 entry "Petrolatum"; and
- .4 "Hydrocarbon wax", corresponding to the chapter 17 entry "Waxes".

5.15 The concern raised by OCIMF related to the use of the new list 1 entries for paraffin-like cargoes (that are also included in draft revised chapter 17 of the IBC Code (PPR 5/24/Add.1) that is expected to enter into force on 1 January 2021 subject to adoption at MEPC 74) being shipped by shippers today and whether these new entries take precedence over the existing entries' names and carriage requirements listed in the current chapter 17 of the IBC Code (resolution MEPC.166(56)).

5.16 The Group noted the concerns raised by OCIMF, which were supported also by other delegations. In this regard the Group also noted the following comments:

- .1 According to paragraph 7 of the foreword of the IBC Code (2016 edition), annex 1 of the MEPC.2/Circular includes products that are expected to become new entries or amended information in existing entries in the IBC Code. The product information set out in the circular serves as prior notice of the carriage conditions, which will apply to that product when the next set of amendments enter into force.
- .2 The carriage requirements in the current chapter 17 of the IBC Code (resolution MEPC.166(56)) for "n-Alkanes (C10+)", "Paraffin wax", "Petrolatum", and "Waxes" are therefore applicable for the carriage of these paraffin-like products until the entry into force of the revised chapter 17 of the IBC Code, which is expected to be 1 January 2021, subject to adoption at MEPC 74.
- .3 However, if shipment is to be carried out in accordance with the amended four new entries, "n-Alkanes (C10-C20)", "Paraffin wax, highly-refined", "Paraffin wax, semi-refined" and "Hydrocarbon wax", prior to entry into force of the revised chapter 17 of the IBC Code, the following should be taken into account:
 - .1 the products as listed above, in paragraph 5.16.3, should be listed in an addendum to the Certificate of Fitness; and
 - .2 confirmation should be obtained from the port of discharge that adequate reception facilities are available for receiving any pre-wash required after discharge.

5.17 Having taken the above comments into account, the Group agreed that if the products listed in paragraph 5.16.3 above are not listed in an addendum to the Certificate of Fitness, then they cannot be loaded or shipped under the names listed in paragraph 5.16.3 and should be shipped in accordance with the existing entry listed in the current chapter 17 of the IBC Code (resolution MEPC.166(56)).

5.18 If a receiving State intends to apply the amended carriage requirements as per list 1 of the MEPC.2/Circular in advance of the entry into force of the revised chapter 17 of the IBC Code, then it is invited to:

- .1 notify the IMO Secretariat in writing (esph@imo.org) of their intention, for dissemination in an ESPH information document; and
- .2 ensure that adequate reception facilities are available at their port for receiving any pre-wash required after discharge.

Classification of Used cooking oils

5.19 Having considered document ESPH 24/5/2 (Finland), the Group noted the availability of an additional analysis method, namely "AOCS Cd 22-91 method for determination of polymerized triglycerides" (ESPH 24/5/2, annex), for identifying products as "Used cooking oil (Triglycerides, C16-C18 and C18 unsaturated)" and distinguishing them from "Used cooking oil".

5.20 The Group also noted that the typical analytical composition of "Used cooking oil (Triglycerides, C16-C18 and C18 unsaturated)" reported according to the method AOCS Cd 22-91, which is shown in the following table, was consistent with the composition reported in the PPR product data reporting form submitted by Belgium in the annex to document ESPH 21/3/14.

Component name	%	Range	Type
Mono-, di- and triglycerides and free fatty acids	≥ 95		Method AOCS Cd 22-91 method HPLC
Mono-, di- and triglycerides	> 80		
Free fatty acids	< 15		
Oligomers	≤ 5		

5.21 In this context, the Group further noted that some port States apply a limit of 95% as a criterion to the triglycerides for a cargo to be shipped as "Used cooking oil (Triglycerides, C16-C18 and C18 unsaturated)".

Proposed expiry date for products in lists 2, 3 and 4 of the MEPC.2/Circular

5.22 The Group had for its consideration document ESPH 24/5/3 (United Kingdom), discussing the issue of the re-classification of products in lists 2, 3 and 4 of the MEPC.2/Circular as a result of the amendments to chapter 21 of the IBC Code, the ongoing revision of MEPC.2/Circ.512 and any updates to the GESAMP/EHS Composite List.

5.23 In considering the document, the Group recalled that when MARPOL Annex II and the IBC Code were comprehensively revised in 2005, and based on document ESPH 12/4 (Secretariat), the decision was taken to delete the products in lists 2, 3 and 4 from the MEPC.2/Circular based on the following considerations:

- .1 the GESAMP/EHS Working Group had reassessed and reclassified all products listed in the GESAMP Composite List based on GESAMP Reports and Studies No.64;
- .2 the development of MEPC.1/Circ.512, replacing MEPC/Circ.265; and
- .3 a new chapter 21 of the IBC Code for assigning carriage requirements for products subject to the IBC Code, replacing the old "Criteria for hazard evaluation of bulk chemicals".

5.24 The Group noted the proposal in document ESPH 24/5/3 to delete all the entries in lists 2, 3 and 4 of the MEPC.2/Circular again, as well as the main reasons put forward in the document which are summarized below:

- .1 concern that a number of list 2 products have substances in the "Contains" column for which the safety criteria have not been assessed correctly in accordance with MEPC.1/Circ.512;
- .2 since the revision of the IBC Code in 2007 the list of products in the MEPC.2/Circular has not been reviewed fully and it is unclear how many of the products listed are still being shipped;
- .3 as the GESAMP Composite List is under constant review and the GHPs have been amended/updated, many of the products currently listed in the latest MEPC.2/Circular should be reassessed using the latest GHPs to ensure mixtures are correctly classified;
- .4 the draft revised chapters 17, 18 and 21 of the IBC Code have been finalized taking into account the latest GHPs and safety criteria;
- .5 when the discussion regarding MARPOL Annex I products shipped under Annex II and listed in the MEPC.2/Circular reaches a conclusion, the shippers will need to demonstrate whether products listed in the MEPC.2/Circular still meet the criteria and should be considered as Annex II products; and
- .6 lists 2, 3 and 4 will continue to grow, so it becomes an administrative burden on the IMO Secretariat to maintain the database and keep it up to date.

5.25 There was support for initiating a review of the products in lists 2, 3 and 4 of the MEPC.2/Circular, and the Group discussed whether a time limit should be set for reviewing the lists to ensure the products are correctly classified and to remove products that are no longer being shipped. The Group noted that the time limit could take the form of an expiry date on all products in lists 2 and 4 of the MEPC.2/Circular and on products in list 3 with validity for all countries. The Group agreed that an expiry date should be set appropriately far into the future (e.g. three years after a decision to set an expiration date is taken) in order to give manufacturers sufficient time to consider the issue and submit information to the reporting Administrations. If no information had been received by the expiry date, the product would be deleted from the relevant list.

5.26 In this context, the Group noted concerns with regard to the resulting administrative load for Administrations that had, over the years, reported a large number of products.

5.27 Consequently, the Group agreed to request Administrations to communicate with manufacturers and request that they provide information, to be passed on to the ESPH Working Group, as to whether or not their products in lists 2, 3 and 4 of the MEPC.2/Circular were still being shipped. If a product was no longer being shipped, the Administration would inform the ESPH Group and the product would be deleted from the MEPC.2/Circular.

5.28 However, the Group was of the view that further consideration of the option to assign an expiry date to all products in lists 2 and 4 of the MEPC.2/Circular and on products in list 3 with validity for all countries was warranted, as a time limit would ensure that manufacturers had an incentive to undertake a review of their products to:

- .1 check whether the products were still being shipped;
- .2 check whether the GHP of any component had changed since the inclusion of the products in the MEPC.2/Circular; and
- .3 ensure that all products were assessed in accordance with the latest IBC Code criteria and related guidance.

5.29 Therefore, the Group agreed to request PPR 6 to authorize ESPH 25 to further consider the option of assigning an expiry date to all products in lists 2 and 4 of the MEPC.2/Circular and on products in list 3 with validity for all countries, with a view to advising the Sub-Committee on how the review of the products in the above-mentioned lists could be implemented to ensure that the carriage requirements reflected the most up-to-date GHPs, IBC Code criteria and associated guidance.

6 REVISION OF MEPC.1/CIRC.512 – GUIDELINES FOR THE PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES TRANSPORTED IN BULK

6.1 The Group recalled that:

- .1 ESPH 23 had agreed to further consider the draft revised MEPC.1/Circ.512 at PPR 5 and at ESPH 24 if necessary, having noted that finalization could be deferred to 2019 given that the draft revised chapters 17, 18, 19 and 21 of the IBC Code were not expected to enter into force before 2020;
- .2 ESPH 23 had agreed that document ESPH 23/7/1 should be the base document for further work; and
- .3 the ESPH Working Group at PPR 5, owing to time constraints, had been unable to make progress on the revision of MEPC.1/Circ.512 but had agreed that ESPH 24 should consider the revised draft MEPC.1/Circ.512 with the aim of finalizing it.

6.2 The Group undertook a detailed review of the draft revised MEPC.1/Circ.512, which was set out in the annex to document ESPH 23/7/1, and prepared an updated draft set out in annex 4. The Group was of the view that the ESPH Working Group at PPR 6 could finalize the draft (see also paragraphs 8.6 and 8.7).

7 REVISION OF BLG.1/CIRC.33 – DECISIONS WITH REGARD TO THE CATEGORIZATION AND CLASSIFICATION OF PRODUCTS

7.1 The Group recalled that, following the finalization of the draft revised chapters 17, 18, 19 and 21 of the IBC Code, PPR 5 had instructed it to capture all relevant decisions to date in relation to the assignment of carriage requirements under the IBC Code by updating BLG.1/Circ.33 and MEPC.1/Circ.512, as appropriate.

7.2 Consequently, the Group prepared an updated draft list of decisions with regard to the classification of products, as set out in annex 5, including an appendix listing the results of the discussion on the rationale for deviation of carriage requirements set out in the revised chapter 21 of the IBC Code. The Group agreed to prepare a final draft PPR.1/Circular at PPR 6 for consideration by the Sub-Committee.

8 GUIDANCE FOR ASSESSING AND CLASSIFYING PRODUCTS UNDER ANNEXES I AND II OF MARPOL

General

8.1 The Group recalled that in its initial discussions during PPR 3 regarding the development of guidance for assessing and classifying products under Annexes I and II of MARPOL, it had noted that the following two main issues needed to be addressed with regard to any guidance:

- .1 the assessment procedure itself (i.e. what type of criteria would be needed), including where the procedure/criteria should be reflected; and
- .2 how to address the second generation of bio-fuels.

8.2 The Group also recalled that at ESPH 22 it had agreed that the baseline criteria submitted by Finland and the United Kingdom (ESPH 22/9) were a useful starting point for developing guidance for assessing products classified under Annexes I and II of MARPOL. At the same session, the Group had agreed on a number of issues that should be addressed in the guidance, notably, to incorporate additional criteria related to "reproducibility" to be used to differentiate between the mixtures covered by MARPOL Annexes I and II and that any criteria developed should only be applied to new products and would not be applied retroactively to existing products, unless a new submission was made. However, the Group at this session was of the view that the guidance would be applied during the next comprehensive review of the IBC Code.

8.3 The Group further recalled that the ESPH Working Group at PPR 4 had agreed the following with regard to this matter:

- .1 the flow diagram provided in the annex to document PPR 4/3/3 (Finland) and proposed for inclusion in appendix 1 of the revised *Guidelines for the provisional assessment of liquid substances transported in bulk* (MEPC.1/Circ.512) was a good way forward in developing the required guidance that would be used by the ESPH Working Group to assess whether products should be covered by MARPOL Annex II, or more suitably regulated under MARPOL Annex I; and
- .2 the assessment process that would be followed by the ESPH Working Group for determining whether products should be covered by MARPOL Annex I or II should be addressed in a PPR circular, whilst the more general

information on the rationale and assessment for the purposes of establishing tripartite agreements under MARPOL Annex II for such products, pending assessment by the ESPH Working Group, could be addressed in an MEPC circular.

8.4 With regard to the outcome of such assessments, the Group recalled that at PPR 4 it had reiterated its view that the addition of a new list in the *Provisional categorization of liquid substances in accordance with MARPOL Annex II and the IBC Code* (MEPC.2/Circular) was the best way to record those products that had been considered by the Group and assessed as being subject to MARPOL Annex I, with any products determined to be covered under MARPOL Annex II and the IBC Code included in the appropriate list of the circular, as per the usual process.

8.5 The Group further recalled that at PPR 4, having noted that it would need to determine how it would handle the submission of trade-named Annex I products in developing the guidance, as many petroleum oils were traded under a wide variety of trade names, it had confirmed that whatever means were developed to record decisions on such substances, MARPOL Annex I products would not be recorded under trade names, as this would overly complicate the process.

Guidance for complex petrochemical mixtures

8.6 The Group recalled that the ESPH Working Group at PPR 5, owing to time constraints, had been unable to make progress on the development of general guidance for determining whether products should be covered by MARPOL Annex I or II and, consequently, had agreed to further consider the matter at ESPH 24.

8.7 Subsequently, the Group developed draft text addressing the assessment of complex petrochemical mixtures in the context of determining whether they should be covered by MARPOL Annex I or II, and included it as a new section 9, between square brackets, in the draft revised MEPC.1/Circ.512 set out in annex 4 (see also paragraphs 6.1 and 6.2). The existing section 9 (Submission of data to GESAMP/EHS and IMO) was renumbered as section 10.

Energy-rich fuels

8.8 With regard to energy-rich fuels, the Group recalled that ESPH 23, and subsequently the ESPH Working Group at PPR 5, had developed the draft MEPC circular on *Guidelines for the carriage of energy-rich fuels and their blends*, which had been agreed to by PPR 5 and submitted to MEPC 73 for approval. The Group also recalled that the Committee had been requested to endorse the consequential inclusion of a new annex 12 to the MEPC.2/Circular, for the purpose of listing substances that, following assessment by the ESPH Working Group, were deemed to be subject to MARPOL Annex I.

8.9 In this context, the Group had for its consideration document ESPH 24/8 (Finland), proposing a draft annex 12 to be included in MEPC.2/Circ.24.

8.10 Having considered the above proposal, the Group agreed that the following products, that were listed in annex 11 of MEPC.2/Circ.23, fulfilled the characteristics described in section 4 of the draft *Guidelines for the carriage of energy-rich fuels and their blends*:

- .1 Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%);
- .2 Alkanes (C5-C7), linear and branched;

- .3 Alkanes (C9-C24) linear, branched and cyclic with a flashpoint $\leq 60^{\circ}\text{C}$;
- .4 Alkanes (C9-C24) linear, branched and cyclic with a flashpoint $> 60^{\circ}\text{C}$;
- .5 Alkanes (C10-C17), linear and branched;
- .6 Alkanes (C10-C26), linear and branched with a flashpoint $\leq 60^{\circ}\text{C}$; and
- .7 Alkanes (C10-C26), linear and branched with a flashpoint $> 60^{\circ}\text{C}$.

8.11 Consequently, the Group agreed that, subject to the draft *Guidelines for the carriage of energy-rich fuels and their blends* being approved at MEPC 73, the products listed in paragraph 8.10 above should be listed in a new annex 12 to MEPC.2/Circ.24 (to be issued on 1 December 2018), as set out in draft form in annex 6. Accordingly, the above-mentioned products and their corresponding biofuel entries would be deleted from list 1 and annex 11 of the MEPC.2.Circular, as appropriate.

8.12 With regard to consequential amendments emanating from the inclusion of the annex 12 to MEPC.2/Circ.24, the Group noted that consequential modifications would have to be made to the draft revised chapter 17 of the IBC Code prior to its adoption (i.e. deletion of the entries that had been included in annex 12 to MEPC.2/Circ.24, as well as deletion of their corresponding biofuel blend entries).

8.13 Similarly, consequential amendments to the *2011 Guidelines for the carriage of blends of petroleum oil and biofuels, as amended* (MEPC.1/Circ.761/Rev.1) would have to be made (i.e. deletion of references to alkanes (C10-C26), linear and branched with a flashpoint of either 60°C or less or more than 60°C).

9 PROVISIONAL AGENDA FOR ESPH 25

9.1 The Group, having agreed on its proposed provisional agenda for ESPH 25, as set out in annex 7, noted that the dates for that meeting would be determined at a later stage based on the IMO schedule of meetings for 2019.

10 ACTION REQUESTED OF THE SUB-COMMITTEE

The Sub-Committee is invited to approve the report in general and, in particular, to:

- .1 note the outcome of GESAMP/EHS 55, particularly the finalization of the draft revised GESAMP Reports and Studies No.64 and the progress made with regard to the development of a recommendation, for consideration by the ESPH Working Group, concerning cut-off values to be used when assessing mixtures (paragraphs 2.1 to 2.15);
- .2 concur with the evaluation of products and their respective inclusion in lists 1, 2, 3 and 5 of MEPC.2/Circ.24, with validity for all countries and with no expiry date as appropriate (paragraphs 3.6 to 3.52 and annexes 1 and 2);
- .3 concur with the Group's decision that non-volatile corrosive solid substances transported in aqueous solutions could be considered, on a case-by-case basis, to determine whether deviations from the venting and ventilation requirements could be acceptable, subject to the vapour pressure of the solid not being available and expected to be very low (paragraphs 3.53 to 3.58);

- .4 concur with the evaluation of cleaning additives (paragraphs 4.3. to 4.8 and annex 3);
- .5 note the clarifications of the Group in relation to the implementation of the MEPC.2/Circular (paragraphs 5.13 to 5.18);
- .6 note the deliberations of the Group regarding the potential review of products in lists 2, 3 and 4 of the MEPC.2/Circular and invite Administrations to communicate with manufacturers and request that they provide information, to be passed on to the ESPH Working Group, as to whether or not their products in the aforementioned lists are still being shipped (paragraphs 5.22 to 5.28);
- .7 authorize ESPH 25 to further consider the option of assigning an expiry date to all products in lists 2 and 4 of the MEPC.2/Circular and on products in list 3 with validity for all countries, with a view to advising the Sub-Committee on how the review of the products in the aforementioned lists could be implemented to ensure that the carriage requirements reflect the most up-to-date GHPs, IBC Code criteria and associated guidance (paragraphs 5.29);
- .8 note the progress of the Group with regard to:
 - .1 the revision of MEPC.1/Circ.512 (paragraphs 6.1 and 6.2 and annex 4);
 - .2 the revision of BLG.1/Circ.33 (paragraphs 7.1 and 7.2 and annex 5); and
 - .3 the development of guidance for the assessment of complex petrochemical mixtures in the context of determining whether they should be covered by MARPOL Annex I or II (paragraphs 8.6 and 8.7, and section 9 of annex 4);
- .9 concur with the Group's assessment of energy-rich fuels and their inclusion in a new annex 12 to MEPC.2/Circ.24, subject to the draft *Guidelines for the carriage of energy-rich fuels and their blends* having been approved by MEPC 73 (paragraphs 8.9 to 8.11 and annex 6);
- .10 note the consequential modification that may need to be made to the draft revised chapter 17 of the IBC Code prior to its adoption if a new annex 12 was included in MEPC.2/Circ.24, and take action as appropriate (paragraph 8.12);
- .11 note the consequential amendments that may need to be made to the *2011 Guidelines for the carriage of blends of petroleum oil and biofuels, as amended* (MEPC.1/Circ.761/Rev.1) if a new annex 12 was included in MEPC.2/Circ.24, and take action as appropriate (paragraph 8.13); and
- .12 approve the proposed provisional agenda for ESPH 25 (paragraph 9.1 and annex 7)

ANNEX 1¹

**EVALUATION OF PRODUCTS – LIST 1 PURE OR TECHNICALLY PURE
SUBSTANCES ASSESSED AS A WHOLE**

Creosote (coal tar) (C8-C22, MW 116-278), submitted by Japan (ESPH 24/3/2)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Creosote (coal tar) (C8-C22, MW 116-278)
c.	Pollution Category:	X
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'	Electrical Equipment – Class:	T2
i''	Electrical Equipment – Group:	IIA
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	C
k.	Vapour Detection:	T
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19.6, 16.2.6, 16.2.9
	Reporting Country:	Japan
	Chapter 19 Synonyms:	None

¹ Available in English only.

[[[(Phosphonomethyl)imino] bis[ethylenenitrilobis (methylene)]] tetrakisphosphonic acid, ammonium salt solution (60% or less), submitted as Forsa™ SCW85902 Scale Inhibitor by the United Kingdom (ESPH 24/3/15)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product name	[[[(Phosphonomethyl)imino] bis[ethylenenitrilobis (methylene)]] tetrakisphosphonic acid, ammonium salt solution (60% or less)
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	3
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i" .	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	Open
k.	Vapour Detection:	No
l.	Fire Protection:	A,C
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6
	Reporting Country:	United Kingdom
	Chapter 19 Synonyms:	Ammonium hydrogen [10,10-dihydroxy-10-oxido-2,5,8-tris(phosphonomethyl)-2,5,8-triaza-10-phosphadec-1-yl]phosphonate solution; Diethylenetriaminepentakis(methylphosphonic acid), ammonium salt solution; and [[[(phosphonomethyl)imino]bis[ethane-2,1-diyl]nitrilobis(methylene)]]tetrakis phosphonic acid solution

1,3,5-Hexahydrotriethanol-1,3,5-triazine solution, submitted as 1,3,5-Hexahydrotriethanol-1,3,5-triazine by Norway (ESPH 24/3/18)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	1,3,5-Hexahydrotriethanol-1,3,5-triazine solution
c.	Pollution Category:	Y
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	C
k.	Vapour Detection:	T
l.	Fire Protection:	AC
n.	Emergency Equipment:	Yes
o.	Special Requirements:	15.12, 15.17, 15.18, 15.19
	Reporting Country:	Norway
	Chapter 19 Synonyms:	Ethanoltriazine solution

Hexahydro-1,3,5-trimethyl-1,3,5-triazine solution (45% or less), submitted by Norway (ESPH 24/3/21)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Hexahydro-1,3,5-trimethyl-1,3,5-triazine solution (45% or less)
c.	Pollution Category:	Y
d.	Hazards:	S/P
e.	Ship Type:	3
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	C
k.	Vapour Detection:	T
l.	Fire Protection:	AC
n.	Emergency Equipment:	Yes
o.	Special Requirements:	15.12, 15.17, 15.19
	Reporting Country:	Norway
	Chapter 19 Synonyms:	1,3,5-trimethyl-1,3,5-triazinane solution (45% or less)

Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%), submitted by Finland (ESPH 24/3/27)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%)
c.	Pollution Category:	Y
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	T3
i''	Electrical Equipment – Group:	IIA
i'''	Electrical Equipment – Flashpoint >60°C:	No
j.	Gauging:	C
k.	Vapour Detection:	FT
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19.6
	Reporting Country:	Finland
	Chapter 19 Synonyms:	None

Bio-fuel blends of Naphtha/Gasolines and Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%) (>25% but <99% by volume), submitted by Finland (ESPH 24/3/27,annex 1)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Bio-fuel blends of Naphtha/Gasolines and Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%) (>25% but <99% by volume)
c.	Pollution Category:	X
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	T3
i"	Electrical Equipment – Group:	IIA
i'''	Electrical Equipment – Flashpoint >60°C:	No
j.	Gauging:	C
k.	Vapour Detection:	FT
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19.6
	Reporting Country:	Finland
	Chapter 19 Synonyms:	None

Alkanes (C9-C24) linear, branched and cyclic (flashpoint $\leq 60^{\circ}\text{C}$), submitted by Finland (ESPH 24/3/28)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Alkanes (C9-C24) linear, branched and cyclic (flashpoint $\leq 60^{\circ}\text{C}$)
c.	Pollution Category:	Y
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	T3
i''	Electrical Equipment – Group:	IIA
i'''	Electrical Equipment – Flashpoint $>60^{\circ}\text{C}$:	No
j.	Gauging:	R
k.	Vapour Detection:	F
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6
	Reporting Country:	Finland
	Chapter 19 Synonyms:	None

Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C), submitted by Finland (ESPH 24/3/28)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C)
c.	Pollution Category:	Y
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.9.6
	Reporting Country:	Finland
	Chapter 19 Synonyms:	None

Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint $\leq 60^{\circ}\text{C}$) (>25% but <99% by volume), submitted by Finland (ESPH 24/3/28, annex 1)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint $\leq 60^{\circ}\text{C}$) (>25% but <99% by volume)
c.	Pollution Category:	X
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i".	Electrical Equipment – Class:	T3
i"	Electrical Equipment – Group:	IIA
i'''	Electrical Equipment – Flashpoint $>60^{\circ}\text{C}$:	No
j.	Gauging:	C
k.	Vapour Detection:	FT
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19.6
	Reporting Country:	Finland
	Chapter 19 Synonyms:	None

Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C) (>25% but <99% by volume), submitted by Finland (ESPH 24/3/28, annex 1)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Product Name	Bio-fuel blends of Diesel/Gas oil and Alkanes (C9-C24) linear, branched and cyclic (flashpoint >60°C) (>25% but <99% by volume)
c.	Pollution Category:	X
d.	Hazards:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i" .	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	C
k.	Vapour Detection:	T
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.9.6
	Reporting Country:	Finland
	Chapter 19 Synonyms:	None

ANNEX 2¹

EVALUATION OF PRODUCTS – LIST 3 TRADE-NAMED MIXTURES

OLOA 54013, submitted by France (ESPH 24/3)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	OLOA 54013
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i" .	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	R
k.	Vapour Detection:	T
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12.3, 15.12.4, 15.19.6, 16.2.6
	Contains	Alkyl(C18-C28) toluenesulphonic acid, calcium salts, low overbase; Zinc alkyl dithiophosphate (C3-C14); and mineral oil
	Company	Chevron Oronite
	Reporting Country	France

¹ Available in English only.

OLOA 59770 submitted by France (ESPH 24/3/1)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	OLOA 59770
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	R
k.	Vapour Detection:	T
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12.3, 15.12.4, 15.19.6, 16.2.6
	Contains	Alkyl (C18-C28) toluenesulphonic acid, calcium salts, low overbase; Zinc alkyl dithiophosphate (C3-C14); and mineral oil
	Company	Chevron Oronite
	Reporting Country	France

Lubrizol AP 13168, submitted by the United States (ESPH 24/3/3)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	Lubrizol AP 13168
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6
	Contains	Polyolefin amide alkeneamine (C17+); zinc alkyl dithiophosphate (C3-C14); and mineral oil
	Company	Lubrizol
	Reporting Country	United States

OLOA275JR , submitted as Chevron OLOA275JR by the United States (ESPH 24/3/4)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	OLOA275JR
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6
	Contains	Calcium long-chain alkyl (C18-C28) salicylate; mineral oil
	Company	Chevron
	Reporting Country	United States

ENORDET O332, submitted as Shell Chemical ENORDET O332 by the United States (ESPH 24/3/5)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	ENORDET O332
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	R
k.	Vapour Detection:	T
l.	Fire Protection:	AC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12.3, 15.12.4, 15.19.6, 16.2.6
	Contains	Sodium alkyl (C14-C17) sulphonates (60-65% solution)
	Company	Shell Chemical
	Reporting Country	United States

Lubrizol 4980A , submitted by the United States (ESPH 24/3/6)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	Lubrizol 4980A
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6
	Contains	Polyolefin amide alkeneamine (C17+); Zinc alkyl dithiophosphate (C3-C14); and mineral oil
	Company	Lubrizol
	Reporting Country	United States

Lubrizol CV2307, submitted by the United States (ESPH 24/3/7)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	Lubrizol CV2307
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6
	Contains	Polyolefin amide alkeneamine (C17+); and zinc alkyl dithiophosphate (C3-C14)
	Company	Lubrizol
	Reporting Country	United States

Lubrizol FC8051X, submitted by the United States (ESPH 24/3/8)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	Lubrizol FC8051X
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i" .	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6
	Contains	Polyolefin amide alkeneamine (C17+); zinc alkyl dithiophosphate (C3-C14); and mineral oil
	Company	Lubrizol
	Reporting Country	United States

Lubrizol FC9050, submitted by the United States (ESPH 24/3/9)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	Lubrizol FC9050
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6
	Contains	Polyolefin amide alkeneamine (C17+); zinc alkyl dithiophosphate (C3-C14); and mineral oil
	Company	Lubrizol
	Reporting Country	United States

Lubrizol FC9052X , submitted by the United States (ESPH 24/3/10)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	Lubrizol FC9052X
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6
	Contains	Polyolefin amide alkeneamine (C17+) zinc alkyl dithiophosphate (C3-C14); and mineral oil
	Company	Lubrizol
	Reporting Country	United States

Lubrizol MAR 515U, submitted by the United States (ESPH 4/3/11)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	Lubrizol MAR 515U
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6, 16.2.6, 16.2.9
	Contains	Calcium long chain alkyl phenate sulphide (C8-C40); and Alcohols (C12+), primary, linear
	Company	Lubrizol
	Reporting Country	United States

EC6004A, submitted by the United Kingdom (ESPH 24/3/12)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	EC6004A
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont.
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	Closed
k.	Vapour Detection:	T
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19.6
	Contains	Naphthalene (molten); and Alkyl (C5-C8) benzenes
	Company	Nalco Champion
	Reporting Country	United Kingdom

CGW80742P, submitted by the United Kingdom (ESPH 24/3/13)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	CGW80742P
c.	Pollution Category:	X
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	1
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	T2
i''	Electrical Equipment – Group:	IIA
i'''	Electrical Equipment – Flashpoint >60°C:	No
j.	Gauging:	Closed
k.	Vapour Detection:	FT
l.	Fire Protection:	ABC
n.	Emergency Equipment:	Yes
o.	Special Requirements:	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 15.12, 15.17, 15.19 Methyl alcohol; Tall oil fatty acids reaction products with 2-[(2-amino ethyl)amino]ethanol, di-ethyl sulphate and mineral oil
	Contains	
	Company	Baker Hughes
	Reporting Country	United Kingdom

FX2886, submitted by the United Kingdom (ESPH 24/3/17)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	FX2886
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i"	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	Closed
k.	Vapour Detection:	T
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19
	Contains	Naphthalene (molten); and Alkyl (C5-C8) benzenes
	Company	Nalco Champion
	Reporting Country	United Kingdom

PARA16592A , submitted by the United Kingdom (ESPH 24/3/17)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	PARA16592A
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	2
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	Closed
k.	Vapour Detection:	T
l.	Fire Protection:	ABC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19
	Contains	Naphthalene (molten); and Alkyl (C5-C8) benzenes
	Company	Nalco Champion
	Reporting Country	United Kingdom

GT-7538, submitted by Norway (ESPH 24/3/19)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	GT-7538
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	3
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	C
k.	Vapour Detection:	T
l.	Fire Protection:	AC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19.6
	Contains	Diethanolamine
	Company	Schlumberger Production Technologies
	Reporting Country	Norway

GT-7599, submitted by Norway (ESPH 24/3/20)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	GT-7599
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	3
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	C
k.	Vapour Detection:	T
l.	Fire Protection:	AC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.12, 15.17, 15.19.6
	Contains	Diethanolamine
	Company	Schlumberger Production Technologies
	Reporting Country	Norway

CM-9824, submitted as MEG with up to 1.9% NaOH by Norway (ESPH 24/3/22)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	CM-9824
c.	Pollution Category:	Z
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	3
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	AC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6
	Contains	Sodium hydroxide solution
	Company	Schlumberger Production Technologies
	Reporting Country	Norway

SD-4206, submitted by Norway (ESPH 24/3/23)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	SD-4206
c.	Pollution Category:	Z
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	3
f.	Tank Type:	2G
g.	Tank Vents:	Cont
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i''	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	NF
j.	Gauging:	R
k.	Vapour Detection:	No
l.	Fire Protection:	No
n.	Emergency Equipment:	No
o.	Special Requirements:	15.17, 15.19.6
	Contains	Sodium hydroxide solution
	Company	Schlumberger Production Technologies
	Reporting Country	Norway

SCALETREAT 14345, submitted by Norway (ESPH 24/3/24)

In considering the information provided the Group agreed that the following carriage requirements be assigned to the product:

a.	Trade name	SCALETREAT 14345
c.	Pollution Category:	Y
d.	Safety/Pollution Properties:	S/P
e.	Ship Type:	3
f.	Tank Type:	2G
g.	Tank Vents:	Open
h.	Tank Environmental Control:	No
i'.	Electrical Equipment – Class:	-
i" .	Electrical Equipment – Group:	-
i'''	Electrical Equipment – Flashpoint >60°C:	Yes
j.	Gauging:	O
k.	Vapour Detection:	No
l.	Fire Protection:	AC
n.	Emergency Equipment:	No
o.	Special Requirements:	15.19.6
	Contains	Ethylene glycol monoalkyl ethers
	Company	Clariant Oil Services Scandinavia AS
	Reporting Country	Norway

ANNEX 3¹

EVALUATION OF CARGO TANK CLEANING ADDITIVES

Table 1 – New cleaning additives evaluated and found to meet the requirements of regulation 13.5.2 of MARPOL Annex II²

Name of cleaning additive	Name of manufacturer	Reporting Country
1. GZ-01 SEA NEUTRAL HCF	GZ CHEMICAL INC	Chile
2. GZ-02 ECO SEA	GZ CHEMICAL INC	Chile
3. GZ-03 SEA TUFF	GZ CHEMICAL INC	Chile
4. GZ-04 ALKA SEA	GZ CHEMICAL INC	Chile
5. GZ-05 SEA ALKA SAFETY	GZ CHEMICAL INC	Chile
6. GZ-10 SEA BREAK CLEANER	GZ CHEMICAL INC	Chile
7. GZ-12 SEA DISPERSANT	GZ CHEMICAL INC	Chile
8. Careclean Ecosolv	Marine Care B.V.	Netherlands
9. Careclean Supersolv	Marine Care B.V.	Netherlands
10. Careclean Xcellerate VO	Marine Care B.V.	Netherlands
11. Careclean Zincsurf	Marine Care B.V.	Netherlands
12. KT-Soft	CHEMTEC Chemicals GmbH	Germany
13. KT-EcoSoft	CHEMTEC Chemicals GmbH	Germany
14. KT-AlkaPlus	CHEMTEC Chemicals GmbH	Germany
15. MARINE CARE (HD)	INFINITY ENTERPRISES, INC.	Japan
16. MARINE CLEAN (HD)	INFINITY ENTERPRISES, INC.	Japan
17. MARINE SAFE (HD)	INFINITY ENTERPRISES, INC.	Japan
18. MARINE CARE (SB)	INFINITY ENTERPRISES, INC.	Japan
19. MARINE CLEAN (SB)	INFINITY ENTERPRISES, INC.	Japan
20. MARINE SAFE (SB)	INFINITY ENTERPRISES, INC.	Japan

¹ Available in English only.

² All products evaluated in accordance with MEPC.1/Circ.590.

Name of cleaning additive	Name of manufacturer	Reporting Country
21. MARINE CARE (SC)	INFINITY ENTERPRISES, INC.	Japan
22. MARINE CLEAN (SC)	INFINITY ENTERPRISES, INC.	Japan
23. MARINE SAFE (SC)	INFINITY ENTERPRISES, INC.	Japan
24. HAIZEN T-310	KAO Professional Services CO., Ltd	Japan
25. TS-310	SETTSU OIL MILL, INC.	Japan
26. ALCACLEAN XF	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece
27. LIQUID SOAP	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece
28. MARICHEM CR - LT	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece
29. IGS MARI-CLEANER	MARICHEM MARIGASES WORLDWIDE SERVICES	Greece
30. Lilleborg msgBooster	Lilleborg	Norway

Table 2 – Cleaning additives already listed in annex 10 of MEPC.2/Circ.23 for which the name of the manufacturer and the reporting country have been amended (the manufacturer and reporting country as amended at ESPH 24 will be reflected in annex 10 of MEPC.2/Circ.24, which will be issued on 1 December 2018).

Name of cleaning additive	Name of manufacturer in annex 10 of MEPC.2/Circ.23	Name of manufacturer as it will appear in annex 10 of MEPC.2/Circ.24	Reporting Country in annex 10 of MEPC.2/Circ.23	Reporting Country as it will appear in annex 10 of MEPC.2/Circ.24
CP Alka HD	CP Metal Chemicals	CHEMTEC Chemicals Gmbh	Netherlands	Germany
CP Metal HD	CP Metal Chemicals	CHEMTEC Chemicals Gmbh	Netherlands	Germany

ANNEX 4

PROPOSED AMENDMENTS TO THE REVISED GUIDELINES FOR THE PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES TRANSPORTED IN BULK (MEPC.1/Circ.512)

Table of contents

Section 1	Introduction
Section 2	Assessed products
Section 3	Unassessed products
Section 4	Provisional assessment of pure or technically pure products, and generic mixtures evaluated as a whole
Section 5	Assessment of pollutant-only trade-named mixtures containing products already assessed by IMO
Section 6	Assessment of trade-named mixtures presenting safety hazards containing products that have already been assessed by IMO
Section 7	Assessment of mixtures containing one or more components which have not yet been assessed by IMO
Section 8	Establishing tripartite agreements and related administrative requirements
[Section 9	Complex petrochemical mixtures submitted for assessment as an Annex II product]
Section 10	Submission of data to GESAMP/EHS and IMO
Appendix 1 –	Flow diagrams for the provisional assessment of liquid substances carried in bulk
Appendix 2 –	References to related information and recommendations for ascertaining the carriage requirements for products shipped in bulk
Appendix 3 –	Example of an Addendum to the Ship's Certificate of Fitness
Appendix 4 –	Examples of determination of Pollution Categories for mixtures
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Appendix 6 –	Format for proposing tripartite agreements for provisional assessment of liquid substances

1 INTRODUCTION

1.1 The carriage of liquid substances in bulk is regulated by SOLAS, as amended, and MARPOL, as amended, which collectively address both safety and pollution prevention considerations.

1.2 Liquid substances that may be offered for shipment in bulk can be divided into the following groups:

- .1 liquefied gases;
- .2 oils; and
- .3 noxious and non-noxious liquid substances, hereinafter referred to as "products".

1.3 Liquefied gases listed in chapter 19 of the IGC Code are subject to the provisions of that Code. For tripartite agreements established under the provisions of the IGC Code (after 1 January 2016), reference is made to resolution MSC.370(93), as amended.

1.4 "Oil", as referred to in paragraph 1.2.2 above, means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than those petrochemicals which are subject to the provisions of Annex II of MARPOL) and, without limiting the generality of the foregoing, includes the substances listed in appendix I to MARPOL Annex I.

1.5 Some products may be considered to be energy-rich fuels and should be shipped under MARPOL Annex I if they are listed in annex 12 of the MEPC.2/Circular (see MEPC.1/Circ...).

1.5 alternative Some products may be considered to be covered under MARPOL Annex II, but may also be considered as complex petroleum/hydrocarbon or petroleum-like mixtures used as "energy-rich fuels", and could therefore be shipped under MARPOL Annex I. Procedures are included to address such products, in order to ensure that they are assessed and regulated under the appropriate annex of MARPOL.]

1.6 Trade-named Mixture as defined in lists 2, 3 and 4 of the MEPC.2/Circular, means a mixture or solution composed of two or more components which are mixed but not chemically combined or reacted, and which can be separated by physical means.

1.7 A number of products can be shipped either on gas carriers or chemical tankers. These are included in both chapter 19 of the IGC Code, marked with an asterisk, and in chapter 17 of the IBC Code.

1.8 Each liquid substance offered for carriage in bulk should be identified as either a "liquefied gas", an "oil" or a "product". These Guidelines apply only to liquid substances identified as products.

1.9 The requirements for the carriage of liquid products in bulk are defined in the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) and the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code). The IBC Code applies to chemical tankers built on or after 1 July 1986 and is mandatory under both SOLAS and MARPOL. The BCH Code applies to those tankers built before 1 July 1986. The latter is mandatory under MARPOL and recommended under SOLAS. ~~4.9 — Some products may be considered to be~~

~~covered under MARPOL Annex II, but may also be considered as complex petroleum/hydrocarbon or petroleum-like mixtures used as "energy rich fuels", such as petrol, diesel, kerosene and aviation fuel and could therefore be shipped under MARPOL Annex I. Procedures are included to address such products, in order to ensure that they are assessed and regulated under the appropriate annex of MARPOL.~~

1.10 The present Guidelines make reference to the IBC Code. Reference to the BCH Code is implied, where applicable.

1.11 The procedures described in the present Guidelines are presented in flow chart form in appendix 1.

Bodies involved in the assessment process and related documentation

1.12 The process for the full assessment of liquid products offered for carriage in bulk involves a number of entities that, as a result of the assessments undertaken, produce a number of related product lists. These entities and lists, which are defined below, are referred to throughout the Guidelines.

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

GESAMP/EHS GESAMP Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships (EHS). An independent body of scientific experts that meets annually to assess the hazards of bulk liquid substances regulated under MARPOL Annex II and, based on the data received, assign a pollution category for a product. This is known as the GESAMP Hazard Profile (GHP). Once evaluated, an entry for the substance and its GESAMP Hazard Profile is permanently added to the GESAMP Composite List, which is updated and circulated annually as a PPR.1/Circular, following each GESAMP/EHS meeting.

GESAMP Hazard Profile The GESAMP Hazard Profile consists of an alphanumerical rating system indicating a substance's hazards to the marine environment and human health. Ratings are applied to each of 13 end-points that represent an environmental or human health effect of a given product. These 13 ratings collectively make up the hazard profile.

PPR Sub-Committee on Pollution Prevention and Response

ESPH PPR Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals and Preparation of Consequential Amendments (ESPH). On the basis of the GESAMP Hazard Profile and other properties, the ESPH Working Group determines the pollution category and carriage requirements for the respective products, in accordance with MARPOL Annex II and chapter 21 of the IBC Code. These substances are then added to the product lists included in the MEPC.2/Circular, which is updated and issued annually by IMO.

Reporting country Refers to the country that, through its Administration, undertakes the provisional assessment of a product, in accordance with the criteria set out in the present guidelines, and establishes a tripartite agreement for the product.

Receiving country	Refers to the country(ies) that will be the recipient of the product, covered by a provisional assessment and tripartite agreement.
Participating country	Refers to the country(ies) that have concurred and signed on to a tripartite agreement proposed by the reporting country. These include the flag State(s) of the vessel(s) that would be carrying the product and the recipient countries that would be receiving the product.
MEPC.2/Circular	Known as the <i>Provisional Categorization of Liquid Substances in accordance with MARPOL Annex II and the IBC Code</i> . This circular is a compilation of products and their carriage requirements, established either under a tripartite agreement (with an expiry date) or that have been fully assessed by IMO (no expiry date). An updated list is disseminated each December by IMO, incorporating any new products assessed or any modifications made to existing products during the year. Products in list 1 of the circular that have been formally reviewed by ESPH and are valid for all countries are included in the circular, prior to their <u>will be</u> incorporated ed into the IBC Code, when <u>the Code</u> this is next updated.
PPR.1/Circular	Source of the latest "GESAMP Composite List". The PPR.1/Circular contains a compilation of all substances assessed by GESAMP/EHS and the resulting GESAMP Hazard Profiles (GHP). GESAMP/EHS meets annually to assess substances. Following this, the PPR.1/Circular is circulated, which includes the report of the meeting and the update of the GESAMP Composite List.
GESAMP/EHS Product Data Reporting Form	This form sets out all the technical information required by GESAMP/EHS to evaluate a product and assign a GESAMP Hazard Profile. It can be accessed on the IMO website at: http://www.imo.org/OurWork/Environment/PollutionPrevention/ChemicalPollution/Pages/ChemicalsReportingForms.aspx
PPR Data Reporting Form	This form sets out all the technical information required by ESPH to assign a pollution category (in accordance with MARPOL Annex II) and carriage conditions (under the IBC Code) for liquid substances carried in bulk. The form and related guidance notes are set out in MEPC.1/Circ.857. These are also available for download at the IMO website.*

1.13 These Guidelines also make reference to a number of documents to be referred to when ascertaining the carriage requirements for liquid products shipped in bulk. A summary of these information sources is included in appendix 2.

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

2 ASSESSED PRODUCTS

2.1 "Assessed products" are those products that have been evaluated by GESAMP/EHS and have had their carriage requirements confirmed by IMO. These are subsequently included in chapters 17, 18 or 19 of the IBC Code, or in the latest edition of the MEPC.2/Circular, for all countries with no expiry date.

2.2 A product can be still be shipped as an assessed product if it contains up to a total of 1% unassessed components, which are mixed with the assessed component(s). Such unassessed component(s) cannot be *oil* as defined in MARPOL Annex I or mixed with a product with pollution category "OS".

2.3 It should be noted that technically pure substances may contain impurities or by-products from processing but that the name of the product would reflect the chemical name of the substance and not to any impurities or by-products present and that this would not affect the carriage requirements in any way.

2.4 If a liquid substance is to be shipped as a product, the shipper should first check whether it is listed in chapters 17, 18 or 19 of the IBC Code, or in the latest edition of the MEPC.2/Circular.

2.5 If it appears in any of these, then the product must be shipped under the product name listed in chapter 17 or 18 of the IBC Code or the latest edition of the MEPC.2/Circular.

2.6 The products listed in the IBC Code are pure or technically pure products and also includes solutions and generic mixtures that have been evaluated as a whole. The product lists set out in chapters 17, 18 or 19 of the IBC Code are updated with each subsequent amendment of the lists, usually on a four to five year cycle.

2.7 Chapter 19 of the IBC Code, i.e. the Index of Products Carried in Bulk (later referred to as the "Index") sets out most of the commonly used synonyms of the products listed in chapters 17 and 18. The Index is also updated in each consecutive edition of the IBC Code.

2.8 If the product is not listed in chapters 17, 18 or 19 of the IBC Code, the next step is to consult list 1 of MEPC.2/Circular. List 1 of the circular contains pure or technically pure products and generic mixtures evaluated as a whole ~~that have been fully assessed by IMO for "all countries and with no expiry date".~~
~~These products will be included in the next revision of the IBC Code.~~

2.9 The MEPC.2/Circular also includes the following other lists:

- .1 **list 2:** Pollutant-only mixtures containing at least 99% by weight of components already assessed by IMO (covered in section 5);
- .2 **list 3:** (Trade-named) mixtures ~~containing at least 99% by weight of components already assessed by IMO,~~ presenting safety hazards (covered in section 6);
- .3 **list 4:** Pollutant-only mixtures containing one or more components, forming more than 1% by weight of the mixture, which have not yet been assessed by IMO; and
- .4 **list 5:** Substances not shipped in pure form but as components in mixtures.

2.10 If the product is not listed in the IBC Code or in the MEPC.2/Circular then it is necessary to check whether the product has already been provisionally assessed under a tripartite agreement by consulting the appropriate section of the IMO website:

<http://www.imo.org/OurWork/Environment/PollutionPrevention/ChemicalPollution/Pages/TripartiteAgreements.aspx>

This portion of the website is updated throughout the year based on receipt of notification from Member States of any new tripartite agreements established through their respective Administrations.

2.11 If a product has already been provisionally assessed and a tripartite agreement exists, any interested countries should contact the reporting country, i.e. the country that has initiated the tripartite agreement, to obtain a copy of the agreement. It will then review the assessment and, if it agrees, will consider becoming a Party to it. When carrying out this review, any new data should be taken into account, so that an accurate assessment can be made in accordance with the applicable section of these guidelines. If an interested party is in agreement with the provisional assessment as it stands and wishes to join the tripartite agreement, it must make a request to the reporting country directly. Once this has been agreed, the inclusion of the new country in the agreement must be duly communicated to IMO by the reporting country, which will then update this information in its database (GISIS) and on its website. The new information will be also reflected in the MEPC.2/Circular when next issued.

2.12 If there is no tripartite agreement for the product, one must be established, as described in section 8, in order to be able to ship the product.

3 UNASSESSED PRODUCTS

3.1 Unassessed products are those products that have not had their carriage requirements confirmed by IMO. Consequently, they would not appear in chapters 17, 18 or 19 of the IBC Code, nor in the latest edition of the MEPC.2/Circular, other than under a tripartite agreement with an expiry date.

3.2 Unassessed products are grouped~~are divided into four groups~~, as follows:

- .1 pure or technically pure products and mixtures assessed as a whole; (list 1 of the MEPC.2/Circular; see section 4);
- .2 pollutant-only mixtures, containing at least 99% by weight of components already assessed by IMO (list 2 of the MEPC.2/Circular; see section 5);
- .3 trade-named mixtures; ~~containing at least 99% by weight of components already assessed by IMO,~~ presenting safety hazards (list 3 of the MEPC.2/Circular; see section 6); and
- .4 pollutant-only mixtures containing one or more components, forming more than 1% by weight of the mixture, which have not yet been assessed by IMO (list 4 of the MEPC.2/Circular; see section 7).

3.3 The products or mixtures referred to in paragraphs 3.2.1, 3.2.3 and 3.2.4 above may be provisionally assessed under a tripartite agreement, as described in section 8, in accordance with regulation 6.3 of MARPOL Annex II.

3.4 Once the provisional assessment has been made, a tripartite agreement, as described in section 8, should be established in order to be able to ship the product.

3.5 Pollutant-only mixtures, containing at least 99% by weight of components already assessed by IMO that do not present a safety hazard, referred to in paragraph 3.2.2 above, are assessed in a more simplified manner.

3.6 Given that these products only represent a pollution hazard and that virtually all the components of the mixture would have already been assessed (99%), it is possible for the reporting country to assess the product and assign carriage requirements without the concurrence of the flag States and receiving countries, as is normally required for the establishment of tripartite agreements (see section 8).

3.7 For such cases, the Administration of the reporting country will assign a pollution category and carriage requirements for the product and communicate the results of its assessment to the relevant flag State and receiving country, as well as to IMO, so that the information may be posted on the IMO website. The product entry will also be included in the MEPC.2/Circular, when next issued. These mixtures will be shipped under the applicable generic entry in the IBC Code ((i.e. Noxious Liquid (n.o.s.) covered under chapter 17 or Non-Noxious Liquid (n.o.s.), covered under chapter 18), without the need for an addendum to the ship's Certificate of Fitness.

4 PROVISIONAL ASSESSMENT OF PURE OR TECHNICALLY PURE PRODUCTS, AND GENERIC MIXTURES EVALUATED AS A WHOLE

4.1 In the case of pure or technically pure products and generic mixtures assessed as a whole, the Administration of the reporting country should provisionally assess the product and assign the pollution category, the ship type and carriage requirements, in accordance with the provisions of MARPOL Annex II and the IBC Code, on the basis of the data supplied by the manufacturer/shipper, and the product's GESAMP Hazard Profile, if available.

4.2 The following reference documents provide guidance to the Administration for assessing the pollution and safety hazards of a product:

- .1 Guidelines for the categorization of Noxious Liquid Substances (MARPOL Annex II, appendix I);
- .2 Chapter 21 of the IBC Code, Criteria for assigning carriage requirements for products subject to the IBC Code; and
- .3 GESAMP Reports and Studies No-...64, ~~second edition~~ – The ~~Revised~~ GESAMP hazard evaluation procedure for chemical substances carried by ships.

4.3 The first step for the Administration is to consult the latest version the GESAMP Composite List (PPR.1/Circular).

4.4 If a GESAMP Hazard Profile exists in the GESAMP Composite List for the product in question, its pollution category can be derived following the guidelines set out in MARPOL Annex II, appendix I (see 4.2.1 above). Once the pollution category has been identified, the ship type and carriage requirements can then be derived by following the criteria set out in chapter 21 of the IBC Code (see 4.2.2 above).

4.5 If no hazard profile exists for the product, all available data needed to establish a provisional hazard profile should be provided by the manufacturer/shipper based on the parameters set out in GESAMP Report and Studies No-~~...64.~~

4.6 When adequate data are available, a provisional hazard profile can be derived, based on the criteria developed by GESAMP/EHS (see 4.2.3 above). The provisional pollution category should then be derived on the basis of the provisional hazard profile by following the guidelines referred to in 4.2.1 above. The ship type and carriage requirements should be derived in accordance with 4.2.2.

4.7 When sufficient data are not available, the Administration of the reporting country should use the information submitted by the manufacturer/shipper to make an assessment by analogy to chemically similar substances, from the following sources:

- .1 the IBC Code (chapters 17, 18, 19);
- .2 the MEPC.2/Circular, which lists the products assessed by IMO and those provisionally assessed by tripartite agreement; and
- .3 the GESAMP Composite List (PPR.1/Circular), listing all substances for which hazard profiles exist.

4.8 When several alternative analogies are possible, the most severe should prevail.

4.9 Once the provisional assessment is made, a tripartite agreement, as described in section 8, should be established in order to be able to ship the product.

5 ASSESSMENT OF POLLUTANT-ONLY TRADE-NAMED MIXTURE CONTAINING PRODUCTS ALREADY ASSESSED BY IMO

5.1 This section addresses the mixtures defined in paragraph 3.2.2, i.e. pollutant-only mixtures presenting no safety hazard and containing at least 99% by weight of products (i.e. pure/technically pure products) already assessed by IMO. Products that have been assessed by IMO are:

- .1 those listed in chapters 17, 18 or 19 of the IBC Code; and
- .2 those listed in list 1 of the MEPC.2/Circular, *without* an expiry date; ~~and~~
- ~~.3 those listed in list 5 of the MEPC.2/Circular.~~

5.2 Pollutant-only mixtures may also contain components that have associated safety hazards, as designated by "S" or "S/P" in *column d* in chapter 17 or the MEPC.2/Circular. If such components are diluted to such an extent that the final mixture does not present any safety hazard, the mixture will remain "pollutant only". For such cases, a submission together with a completed PPR product data reporting form containing the relevant technical data and considerations (see section paragraph 9.10.5), will be required when submitting the product for assessment to IMO (~~i.e. GHS principles for mixture classification, such as concentration limits~~). Information and justifications in the PPR Reporting Form should provide a rationale for not assigning safety hazards to the mixture based on the GHS principle for mixture classification (such as concentration limits).~~.)~~

5.3 The pollution category and the ship type for these mixtures are derived from the GESAMP Hazard Profiles of the components, using the calculation method set out in paragraphs 5.5 and 5.6. For all assessments, the GHP in the most recent edition of the GESAMP Composite List should be used.

5.4 For the purpose of this calculation, unassessed components up to 1% are to be assigned a component factor of 10,000 for pollution categorization and a component factor of 100 is to be used for assignment of ship type. A component factor of 100 is also assigned to diluent mineral oil.*

Calculation of the pollution category

5.5 The first step in the assessment process is to establish the pollution category of the mixture by the following procedure:

- .1 identify the GESAMP Hazard Profile of each component from the latest edition of the Composite List (PPR.1/ Circular);
- .2 multiply the concentration of each identified component in the mixture, expressed in percent by weight, by the factor associated with its GESAMP Hazard Profile using table 1, taking the ratings resulting in the highest component factor into account;
- .3 add the resultant multiples to obtain the "Sp" value,
i.e. $Sp = \sum (\text{Each component \%wt}) \times (\text{Each component factor})$; then
- .4 refer to table 2 to determine the pollution category that corresponds to the resultant Sp value.

Table 1 – Component factors for calculation of pollution category

Row	Rule No (Guidelines for categorization, Appendix 1 to MARPOL Annex II)	A1	A2	B1	B2	D3	E2	Component Factor	Row
a	1	≥4	NR	≥6				100,000	a
b	1	≥4		≥6				100,000	b
c	1		NR	≥6				100,000	c
d	4	≥4	NR			CMRTNI*		25,000	d
e	1			≥6				10,000	e
F	1	≥4	NR	5				10,000	f
g	1	≥4		5				10,000	g
h	1		NR	5				10,000	h
I	1			5				1,000	i
J	2	≥4	NR	4				1,000	j
k	2	≥4		4				1,000	k
L	3		NR	4				1,000	l
m	5			4				100	m
n	11					CMRTNI		25	n
o	6			3				10	o
p	7			2				1	p

* Most lube oil additive components are produced in mineral oil and have been assessed a whole. Sometimes more mineral oil is added to a mixture to make it pumpable. This additional mineral oil is referred to as "diluent mineral oil".

* Column D3 refers to products with long-term health effects as follows: C (carcinogenic), M (mutagenic), R (reprotoxic), T (specific target organ toxicity), N (neurotoxic) or I (immunotoxic).

Row	Rule No (Guidelines for categorization, Appendix 1 to MARPOL Annex II)	A1	A2	B1	B2	D3	E2	Component Factor	Row
q	8	≥4	NR		Not 0			1	q
R	9				≥1			1	r
s	10						Fp,F or S if not Inorganic	1	s
T	12	Any product not meeting the criteria of rules 1 to 11 and 13						0	t
u	13	Any OS substance						0	u

Table 2 – Determination of pollution category based on Sp value

Sp Value	Pollution category
Sp ≥ 25,000	X
Sp < 25,000 and Sp ≥ 25	Y
Sp < 25 unless all individual components are OS	Z
a mixture where all individual components are OS	OS

Calculation of ship type

5.6 The next step is to establish the ship type for the mixture as follows:

- .1 identify the ship type for each component from the IBC Code (chapters 17 or 18) or the MEPC.2/Circular, as appropriate;
- .2 multiply the concentration of each component in the mixture, expressed in percent by weight, by the factor associated with its ship type according to table 3;

Table 3 – Component factors for calculation of ship type

Ship type	Factor
1	1,000
2	100
3	10
NA	0
diluent mineral oil	10

- .3 add the resultant multiples to obtain the "Ss" value,
i.e. $Ss = \sum (\text{Each component \%wt}) \times (\text{Each component factor})$;
- .4 refer to the left-hand column of table 4 for determining ship types and identify the row that corresponds to calculated "Ss" value; and
- .5 refer to table 4 below to determine the ship type that corresponds to the resultant Ss value in the left hand column and then, reading across the row, answer the questions to determine the ship type.

Table 4 – Determination of ship types based on Ss value

Ss Value	Question	Answer	Ship Type
Ss ≥ 10,000	Is the sum of ST 1 multiples ≥10,000?	Yes →	1
		No →	2
10,000 > Ss ≥1,000	Is the sum of ST 1 & 2 multiples ≥1,000?	Yes →	2
		No →	3
1,000 > Ss ≥100			3
Ss <100	Is the pollution category of the mixture X or Y?	Yes →	3
		No →	NA

5.7 Examples of the calculations for determining the pollution category are given in appendix 4 and examples for calculating the ship type for mixtures are given in appendix 5. In addition, an automated tool, with accompanying guidance notes, has also been developed to assist Administrations in undertaking the above calculations, which are known as "mixture calculations" for trade-named mixtures. This tool can be accessed on the IMO website at:

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

5.8 On the basis of the calculated pollution category and ship type, and taking into account its flashpoint, a mixture is then assigned to the appropriate generic "Noxious (or non-noxious) liquid, n.o.s." entry in the IBC Code with the assignment of the corresponding carriage requirements.

5.9 A pollutant-only mixture is identified by reference to the appropriate generic n.o.s. entry in the IBC Code, completed by the identification of a trade name and of the component responsible for the assigned pollution category. Trade names should be of a commercial nature and should not contain anything that could be construed as a chemical name, chemical formula or other generally accepted chemical descriptor.

5.10 If the mixture contains diluent mineral oil, which could contribute the assignment of the pollution category, the n.o.s. designation of the mixture should be followed by the words "contains mineral oil".

5.11 The process of assigning a pollutant-only mixture of assessed components to one of the generic n.o.s. entries in the IBC Code is of a purely mathematical nature and does not require an assessment. In the interest of facilitating shipments, the Administration of the reporting country may authorize the manufacturer to carry out the assignment on its behalf.

5.12 In such a case, the obligation to inform the flag States and the receiving countries of the product assignment falls on the delegated manufacturer. The manufacturer should also inform IMO, if so requested by the authorizing Administration. Notification of the assignment by the manufacturer should be accompanied by an authorization letter indicating that the manufacturer is acting under instruction and on behalf of the Administration. Following notification to IMO, the mixture will be added to the list of products on the IMO website and in list 2 of the MEPC.2/Circular, when next issued.

5.13 The manufacturer should also inform the authorizing Administration of the assignment performed. Upon request, the manufacturer should also provide the flag State and/or the receiving country with details of the mixture assignment.

6 **ASSESSMENT** OF TRADE-NAMED MIXTURES PRESENTING SAFETY HAZARDS CONTAINING PRODUCTS THAT HAVE ALREADY BEEN ASSESSED BY IMO

6.1 This section addresses those mixtures presenting a safety hazard (one or more of the components designated an "S" or "S/P" in *column d* of chapter 17 of the IBC Code or of the MEPC.2/Circular, containing at least 99% weight of products assessed by IMO).

6.2 For the purpose of this section, products that have been assessed by IMO are:

- .1 those listed in chapters 17, 18 and 19 of the IBC Code; and
- .2 those listed in lists 1 ~~and 3~~ of the MEPC.2/Circular, without an expiry date; and
- .3 ~~those listed in list 5 of the MEPC.2/Circular.~~

From January 2015 (as revised below)

6.3 Similar to the procedure set out in section 5, the first step for the Administration of the reporting country is to calculate the pollution category and ship type for the mixture, following the method set out in paragraphs 5.5 and 5.6. ~~The provisional ship type, for pollution prevention purposes only, is then calculated following the method shown in paragraph xx~~

~~6.4 Based on the pollution category, the Administration should then provisionally assess the safety hazards of the mixture and assign carriage requirements accordingly. These are determined by following the criteria set out in chapter 21 of the IBC Code. If necessary, the Administration should revise the ship type assigned, selecting the most stringent ship type.~~

6.4 The Administration should then assess the safety hazards of the mixture and assign carriage requirements. The minimum carriage requirements of each column in the Code is determined by selecting the most stringent requirement of the components present in the mixture, unless the Administrations concerned are satisfied that safe carriage is ensured by less stringent conditions. The Administration should also determine the ship type based on the criteria in paragraph 21.4.5.2 of the IBC Code and, if it is more stringent than that in paragraph 6.3, assign the more stringent ship type.

Norway proposal

~~"6.4 A provisional Ship Type, for pollution prevention purposes only, is then calculated, as shown in paragraph 5.5. The ship type used in the calculation should be determined by using the GESAMP Hazard Profile of the components and table 21.4.5.1 of the IBC Code.~~

~~6.5 The Administration should then provisionally assess the safety hazards of the mixture and assign carriage requirements accordingly. These are determined by following the criteria set out in chapter 21 of the IBC Code. If necessary, the Administration should revise the tentative Ship Type assigned in paragraph 6.4. The hazards of the mixture must not exceed the hazards of any individual component (synergistic effects)."~~

~~In the event the hazards of the mixture exceed the hazards of any individual component due to synergistic effects, the Administration should apply the more stringent provisional ship type.~~

~~If the hazards of the mixture exceed the hazards of any individual component due to synergistic effects, the Administration should increase the provisional ship type assigned in para 6.4.~~

January 2015 version: The provisional ship type, for pollution prevention purposes only, is then calculated following the method shown in paragraph xx.

Original text of existing MEPC.1/Circ.512

~~6.3 A tentative Ship Type, for pollution prevention purposes only, is then calculated, as shown in paragraph 5.4.~~

~~6.4 The Administration should then provisionally assess the safety hazards of the mixture and assign carriage requirements. The minimum carriage requirements of each column in the Code is determined by selecting the most stringent requirement of the components present in the mixture, unless the Administration is satisfied that safe carriage is ensured by less stringent conditions. The hazards of the mixture must not exceed the hazards of any individual component (synergistic effects). If necessary, the Administration should revise the tentative Ship Type assigned in paragraph 6.3.~~

~~6.4 — The Administration should then provisionally assess the safety hazards of the mixture and assign carriage requirements. The minimum carriage requirements of each column in the Code is determined by selecting the most stringent requirement of the components present in the mixture, unless the Administration is satisfied that safe carriage is ensured by less stringent conditions. If necessary, the Administration should revise the tentative Ship Type assigned in paragraph 6.3.~~

Trade-named mixtures

6.5 Trade-named mixtures presenting safety hazards cannot be shipped under any of the generic n.o.s. entries in the IBC Code. A shipping name must therefore be assigned and will be composed of:

- .1 the trade name; and
- .2 an identification, in parentheses, of the principal substance(s) responsible for the safety and/or pollution hazards of the mixture. This is what is known as the "contains name" of the product.

6.6 Assigned trade names for such mixtures should be of a commercial nature and should not contain anything that could be construed as a chemical name, chemical formula or other generally accepted chemical descriptor. Products submitted for assessment through the relevant bodies (GESAMP/EHS and IMO) may be rejected or require renaming if chemical descriptors, as identified above, are included as part of the trade name. The contains name for the mixture should be the corresponding product name, as set out in chapter 17 of the IBC Code or list 1 of the MEPC.2/Circular.

6.7 The contains name of a trade-named mixture may be a single product or two different products. The selected contains name(s) should correspond to a product name(s) set out in chapter 17 of the IBC Code or list 1 of the MEPC.2/Circular. Where a trade-named mixture contains both pollution and safety hazards, the product representing the safety hazard should be listed first in the contains name, followed by the product representing the pollution hazard, unless they are one and the same. If the mixture contains diluent mineral oil, which could contribute to the assignment of the pollution category, this should also be indicated in the contains name, following the product name(s) as follows: "contains mineral oil".

Mixtures assessed as a whole

6.8 Mixtures with a generic technical name presenting safety hazards assessed as a whole ~~should~~ ~~may~~ be assigned to list 1 of the MEPC.2/Circular.

6.9 Once a provisional assessment is made, a tripartite agreement, as described in section 8, should be established in order to be able to ship the product.

7 ASSESSMENT OF MIXTURES CONTAINING ONE OR MORE COMPONENTS WHICH HAVE NOT YET BEEN ASSESSED BY IMO

7.1 This section addresses mixtures containing one or more components, forming more than 1% by weight of the mixture, that have not yet been assessed by IMO. Given that these components have not been assessed, they would not be listed in chapters 17, 18 or 19 of the IBC Code, nor in the MEPC.2/Circular.

7.2 There are two possible ways of assessing such mixtures:

- .1 if sufficient data are available for the mixture as a whole, it should be assessed as if it were a pure or technically pure product, in accordance with section 4; or
- .2 if sufficient data for the mixture as a whole are not available, the Administration of the reporting country should:
 - .1 provisionally assess each unassessed component, in accordance with section 4; and then
 - .2 assess the mixture by calculation, as shown in section 5, for a pollutant-only mixture, and section 6, for trade-named mixtures presenting safety hazards.

Mixtures presenting only pollution hazards

7.3 Following a provisional assessment of the mixture presenting only pollution hazards, the reporting country may initiate a tripartite agreement, as described in section 8. These mixtures will be shipped under the applicable generic entry in the IBC Code (i.e. Noxious liquid (n.o.s.) or Non-Noxious liquid (n.o.s.)), without the need for an addendum to the ship's Certificate of Fitness.

7.4 Once the tripartite agreement has been communicated to IMO, the details of the assessment will be included on the IMO website and in list 4 in the next edition of the MEPC.2/Circular.

7.5 As described in paragraph 7.2, the manufacturer has the option of forwarding the available data on the whole mixture to GESAMP/EHS, in the case of 7.2.1, or on each individual unassessed component, in the case of 7.2.2, in order to establish the respective GESAMP Hazard Profiles. This should be done following the procedure set out in section [109](#).

Mixtures presenting safety hazards

7.6 When an unassessed component presents safety hazards, the Administration of the reporting country should follow the procedure set out in section 4, as if the component is to be shipped as a pure or a technically pure product.

7.7 Once the provisional assessment has been made for a component as described in 7.6 above, the procedure set out in section 6 should be followed.

7.8 Further to the provisional assessment, the reporting country should initiate a tripartite agreement, as described in section 8, in order to be able to ship the product.

7.9 Provisionally assessed trade-named mixtures presenting safety hazards will be included in list 3 of the MEPC.2/Circular, and mixtures with a generic technical name will be included in list 1 of the MEPC.2/Circular, both with an expiry date of three years.

7.10 The manufacturer will forward the available data on the mixture as a whole to GESAMP/EHS, in the case of 7.2.1, or on each individual unassessed component in the case of 7.2.2, in order to assign the respective GESAMP Hazard Profiles. This should be done following the procedure set out in section 9~~9~~10.

7.11 When information on the mixture or on all of the components is available, the product should be reviewed and a submission made to IMO to reassign it to the appropriate list in the MEPC.2/Circular, as an entry for all countries without an expiry date.

8 ESTABLISHING TRIPARTITE AGREEMENTS AND RELATED ADMINISTRATIVE REQUIREMENTS

Tripartite agreements

8.1 In order to be able to ship a product which has been provisionally assessed, but has not yet been fully assessed by IMO, the reporting country must establish a tripartite agreement.

8.2 Provisional assessments by tripartite agreement will expire three years after their first publication in the MEPC.2/Circular. It is intended that this three-year period would allow sufficient time for the product (and/or its components, as appropriate) to be fully assessed by both GESAMP/EHS and IMO (see section 9) and subsequently included in the MEPC.2/Circular, with validity for all countries and with no expiry date.

8.3 It is critical that this is done within the specified period as, once a tripartite agreement has expired, no new tripartite agreement may be established for the same product, even under a different name. As a consequence, the product can no longer be carried until it has been fully assessed and included in either the MEPC.2/Circular, as an entry for all countries without an expiry date.

8.4 It is in the best interest of the manufacturer or shipper to submit the necessary data for a provisional assessment by tripartite agreement to the Administration of the reporting country well in advance of a planned shipment. The Administration should avoid unnecessary delays in initiating the tripartite agreement after receiving the complete set of information.

8.5 When the provisional assessment of products that present safety hazards is completed, an addendum to the ship's Certificate of Fitness must be issued by the Administration of the flag State of the ship, before the product is loaded on board. An example of an addendum is given in appendix 3.

8.6 Until the provisional assessment is fully agreed by countries involved and a tripartite agreement has been established, the product(s) shall not be carried.

Administrative aspects of establishing a tripartite agreement

8.7 To initiate a tripartite agreement, the Administration of the reporting country should seek the concurrence of the Administrations of the flag State(s) and receiving countries for the provisional assessment, by providing information on which the provisional pollution and safety hazard assessments have been based. For this purpose, the standard format for proposing tripartite agreements for the provisional assessment of liquid substances should be used, as set out in appendix 6. Contact details for tripartite agreements are published in annex 8 of the latest MEPC.2/Circular and can also be accessed at any time on the GISIS web portal of the IMO website.*

8.8 Once a provisional assessment for the establishment of a tripartite agreement has been received by a flag State or receiving country, Administrations are expected to respond within 14 days.

8.9 In the absence of an interim or final response to the proposal for a tripartite agreement from any of the Parties within this 14-day period, the provisional assessment proposed by the Administration of the reporting country is deemed to have been accepted.

8.10 Those contact points that have not informed the Organization of their latest contact details are also deemed to have accepted the tripartite agreement, whilst other contact points should still follow regulation 6.3 of Annex II of MARPOL and these Guidelines ~~(see also resolution MEPC.109(49))~~.

8.11 In the event of disagreement, the most severe of the conditions proposed should prevail for the purposes of the tripartite agreement.

8.12 Following express or tacit agreement by the Parties, the Administration of the reporting country should inform IMO of the tripartite agreement, with details of the provisional assessment within 30 days (or ideally as soon as possible), as required by regulation 6.3 of MARPOL Annex II.

8.13 Following the establishment of the tripartite agreement, it is the responsibility of the manufacturer to submit the product (pure or technically pure substance; or the unassessed component(s) of a mixture; or the mixture as whole), with all required technical data, to GESAMP/EHS for assignment of a GESAMP Hazard Profile well in advance of the expiry date of the tripartite agreement as stated in the latest MEPC.2/Circular ~~at the earliest opportunity~~. The process for submitting products for evaluation by GESAMP/EHS is set out in section ~~9~~10.

9 COMPLEX PETROCHEMICAL MIXTURES SUBMITTED FOR ASSESSMENT AS AN ANNEX II PRODUCT

9.1 This section addresses complex petrochemical mixtures submitted to IMO for consideration as an Annex II product and the criteria that will be applied to determine whether such products should be shipped under MARPOL Annex I instead.

9.2 To determine whether a complex petrochemical product is considered as an Annex I product all of the following criteria should apply:

- .1 the product is a petrochemical complex mixture not produced by chemical synthesis;

* <https://gisis.imo.org/Public/PRF/ContactPoints.aspx>

- .2 the composition of the product can be expressed as individual chemicals of the hydrocarbon family, including alkanes with straight or branched chains, cycloalkanes and aromatics (e.g. naphthalene), etc.;
- .3 the product is obtained by refining (elimination of impurities) or distillation of either crude oils or their blend-stocks or de-aromatization; (note: consider including reference to BLG.1/Circ.23 regarding GTL) (note: consider developing wording to indicate that the product is not a narrow cut); and
- .4 the composition of the product is known by the manufacturer and can be checked by ordinary analytical chemical methods, but may vary from batch to batch depending on the origin of the feeding crude oil and incorporates a number of different chemical structure types.

9.3 When submitting data to the ESPH Working Group, the PPR Data Reporting Form should identify whether the product is a complex petrochemical mixture that is also characterized as a UVCB substance, i.e. substances of unknown or variable composition, complex reaction products or biological materials not produced by chemical synthesis. A product comprised only of hydrocarbons fulfils the requirement of a product that can be expressed as individual chemicals of the hydrocarbon family, including alkanes with straight or branched chains, cycloalkanes and aromatics. A product that is obtained by refining (elimination of impurities) or distillation of either crude oils or their blend-stocks meets the requirements fulfilled by the initial and second steps of the process.

9.4 The experts within the ESPH Working Group need to consider which annex of MARPOL should apply to such products.

9.5 Following the assessment, if the product is considered to be an Annex I product the requirements of Annex I would apply in full, based on appendix 1 of MARPOL Annex I.

9.6 If the product does not meet the criteria set out in paragraph 9.3 above, then it would be considered as falling under Annex II of MARPOL and assessed accordingly, in accordance with this circular. Upon completion of the assessment, the outcome would be recorded and listed in the MEPC.2/Circular.]

10 SUBMISSION OF DATA TO GESAMP/EHS AND IMO

10.1 Following the establishment of a tripartite agreement for a pure or technically pure product or of a mixture containing more than 1% by weight of unassessed components, the manufacturer should take the necessary steps to ensure that their product, or the product components (for mixtures), is duly assessed by GESAMP/EHS and assigned a hazard profile(s), within the specified timeframe, i.e. prior to expiry of the tripartite agreement.

10.2 The first step in this process is to complete the GESAMP/EHS Product Data Reporting form and to submit the form, together with the required technical information, for the attention of the GESAMP Secretariat, for assessment by GESAMP/EHS. Product submissions should follow the guidance as given in GESAMP Reports and Studies No.64, second edition, with respect to the technical information to be supplied. The required form may be downloaded at:

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

10.3 Assessments undertaken by GESAMP/EHS charged at a fixed rate per assessment, i.e. per product or component (for mixtures) assessed (see BLG.1/Circ.28).

10.4 Once a GESAMP Hazard Profile for a substance or components of a mixture has been assigned, the manufacturer shall then submit to the Administration of the reporting country a completed PPR Product Data Reporting Form, using the required information from the GESAMP Hazard Profile and other technical data, as may be required. The proposal should include the proposed pollution category and ship type and associated carriage requirements. The PPR Data Reporting Form is available for download at the link shown in paragraph **10.2**.

10.5 The Administration of the reporting country **should** then submit a proposal to IMO (to either PPR or ESPH), for inclusion of the product in the MEPC.2/Circular as an entry for all countries, without an expiry date. This should comprise a covering note, in the appropriate IMO document format, and a completed PPR Data Reporting form (see MEPC.1/Circ.857).

APPENDIX 1

FLOW DIAGRAMS FOR THE PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES CARRIED IN BULK

The following flow diagrams have been developed to assist users in conducting a provisional assessment of a liquid substance to be carried in bulk in accordance with MARPOL Annex II and the IBC Code. The diagrams follow sequentially and reference each other as appropriate.

Diagram 1 – Determining whether a liquid substance to be carried in bulk is subject to the requirements of the IBC Code

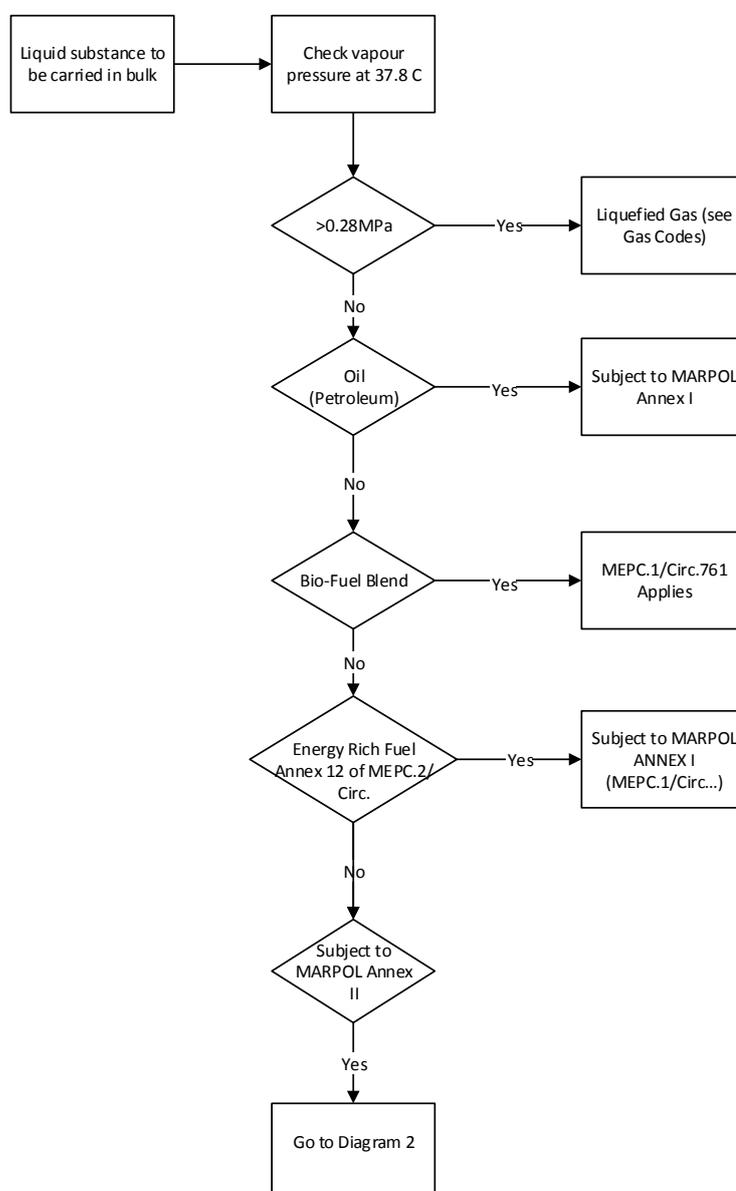


Diagram 2 – Provisional assessment of pure or technically pure products or products assessed as a whole (List 1 and IBC Code chapters 17, 18 and 19 products)

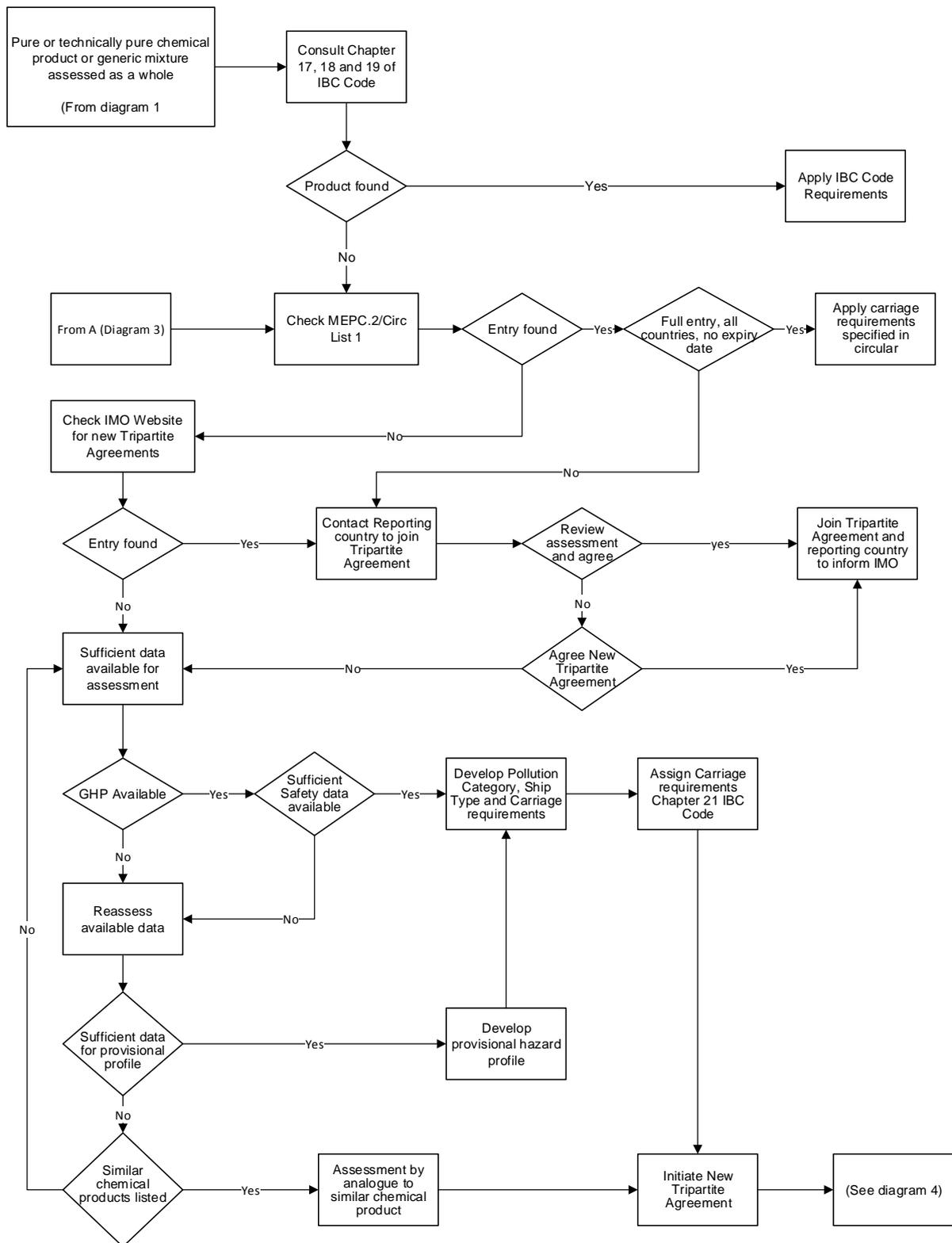


Diagram 3 – Provisional assessment of trade-named mixtures (List 2 and 3 products)

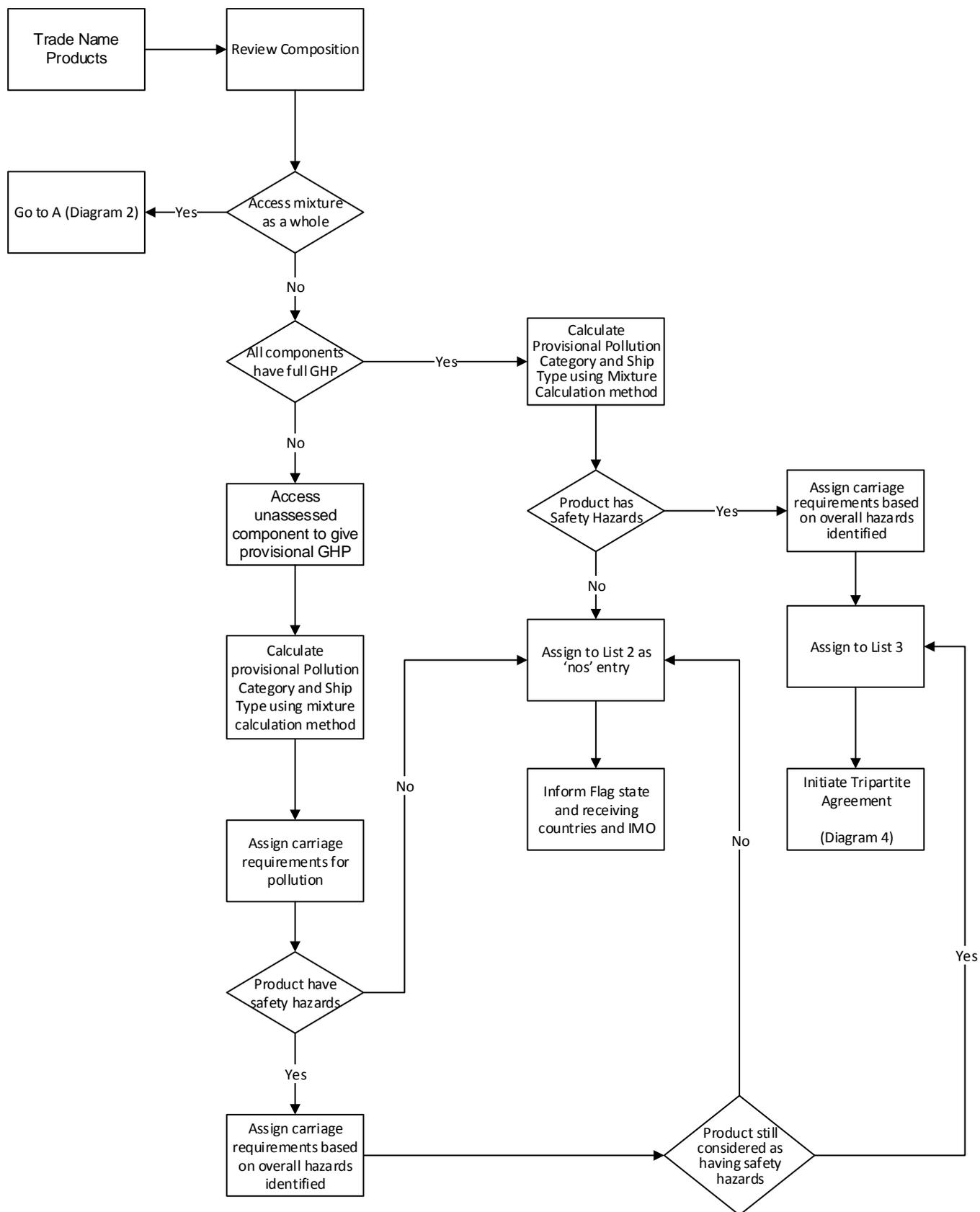
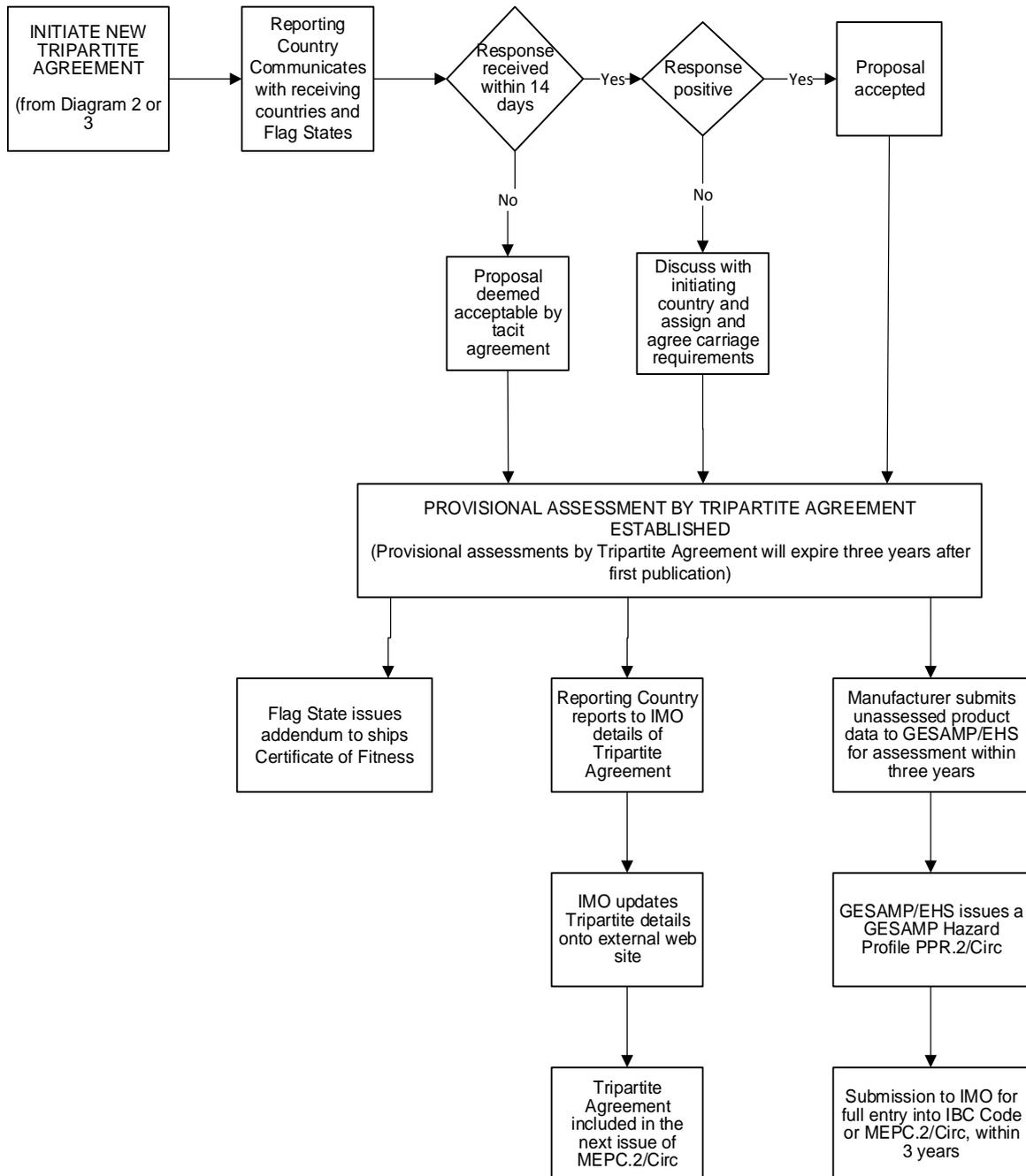


Diagram 4 – Establishing a Tripartite Agreement for a product



APPENDIX 2

REFERENCES TO RELATED INFORMATION AND RECOMMENDATIONS FOR ASCERTAINING THE CARRIAGE REQUIREMENTS FOR PRODUCTS SHIPPED IN BULK

Information requirement	Reference to relevant documents	Subject	Remarks
Information for assessed or provisionally assessed products	IBC Code, chapters 17, 18, 19	Chapters 17, 18: Identification of assessed products Chapter 19: Index of products carried in bulk (synonyms of products listed in the IBC Code)	MEPC.1/Circ.512/rev.1, section 2
	MEPC.2/Circular, list 1 (issued in December of each year)	Provisional categorization of liquid substances in accordance with MARPOL Annex II and the IBC Code (potential entries to the IBC Code)	Check latest MEPC.2/Circular
	Tripartite Agreement Information (BLG.1/Circ.27)	Substances already shipped under tripartite agreement arising since the last MEPC.2/Circular	Check IMO website* for current list
Information for provisional assessment	MARPOL Annex II, appendix I	Guidelines for the categorization of noxious liquid substances	Use for the assignment of pollution category
	IBC Code, chapter 21	Chapter 21: Criteria for assigning carriage requirements for products subject to the IBC Code	See also MARPOL, Annex II, appendix I to identify endpoint ranges from GESAMP hazard profiles
	MEPC.1/Circ.512/Rev.1	Revised guidelines for the provisional assessment of liquid substances transported in bulk	Refer to relevant section, flowcharts and examples in appendix
	GESAMP/EHS Working Group Report (PPR.1/Circular)	Hazard evaluation of substances transported by ships and GESAMP hazard profiles	Contains latest GESAMP Composite List with full listing of GESAMP hazard profiles
	BLG.1/Circ.33	Decisions with regard to the categorization and classification of products	Interpretation of the ratings of GESAMP hazard profiles
Information for proposing tripartite agreements	MEPC.1/Circ.512/rev.1 section 9 <u>8</u>	Revised guidelines for the provisional assessment of liquid substances transported in bulk	Section 8 <u>9</u> contains process and format for proposing tripartite agreements

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

Information requirement	Reference to relevant documents	Subject	Remarks
	MEPC.2/Circular, annex 8	Tripartite contact details	Contact points also available from GISIS website ¹
Information for submission of data to GESAMP/EHS for hazard evaluation	GESAMP Reports and Studies No.64, second edition	Revised GESAMP hazard evaluation procedure for chemical substances carried by ships GESAMP/EHS Product Data Reporting Form	Download from website ² Download from IMO website ³
	BLG.1/Circ.28	Introduction of charges for product evaluation work undertaken by GESAMP/EHS	Sets out evaluation fees for submission of products to GESAMP/EHS
Submission to IMO (for MEPC.2/Circ. and IBC Code)	MEPC.1/Circ.512/rev.1 section <u>109</u> , appendix 4	PPR Product Data Reporting Form	Download from IMO website ⁴

¹ <http://gisis.imo.org>

² www.gesamp.org/publications

³ <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/ChemicalPollution/Pages/ChemicalsReportingForms.aspx>

⁴ <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/ChemicalPollution/Pages/ChemicalsReportingForms.aspx>

APPENDIX 3

EXAMPLE OF AN ADDENDUM TO THE SHIP'S CERTIFICATE OF FITNESS

(Also known as International Certificate of Fitness/International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk)

Addendum to Certificate No.:			Issued at: dd/mm/yyyy		
Issued in pursuance of the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk /International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk / Annex II to MARPOL, as amended* under the authority of the Government of:					
Name of Ship	Distinctive Number or Letters	IMO Number	Port of Registry	Gross Tonnage	Ship Type

THIS IS TO CERTIFY:

That the ship meets the requirements for the carriage in bulk of the following product(s), provided that all relevant operational provisions of / the Code and / Annex II of MARPOL are observed:*

Noxious Liquid Substance / Product*	Conditions of carriage (tank numbers, etc.)	Pollution category

The transportation of this product is permitted between the following countries:

The issuance of this addendum is based on document:

The tripartite agreement for this product is valid until: (dd/mm/yyyy).....

This addendum will remain in force until: (dd/mm/yyyy).....

Place and date of issue:
(dd/mm/yyyy).....

Signed.....
(signature of authorized official)

* Delete as appropriate.

APPENDIX 4

EXAMPLES OF DETERMINATION OF POLLUTION CATEGORIES FOR MIXTURES

This section presents a number of examples to illustrate how pollution categories are derived for mixtures, based on the procedures identified in this document. Please note that only parts of GESAMP hazard profiles have been presented for the purposes of the examples. It should, however, be noted that a value for each rating would normally be included in a complete GESAMP hazard profile.

Methodology

- Step 1** Determine for each component the applicable row in table 1, by means of its hazard profile, taken from the GESAMP Composite list. This will determine the component factor. Test the rows in descending order and find the first combination of ratings that is consistent with the GESAMP hazard profile.
- Step 2** Multiply the component factor with the percentage of the component in the mixture. This will result in the value Sp.
- Step 3** Add all resultant Sp values and determine the pollution category.

Example 1

Steps 1 and 2

The amount of component 1 in the mixture is 11%. Its GESAMP hazard profile (GHP), taken from the GESAMP Composite list, is:

A1	A2	B1	B2	D3	E2
4	NR	6			

The next step is to consult table 1. The GHP corresponds to *row a* in table 1.

The component factor is 100,000. The multiple is therefore 1,100,000 (i.e. 11 % by wt x 100,000 = 1,100,000).

The amount of component 2 is 67% of the mixture. Its GESAMP hazard profile, taken from the GESAMP Composite list, is:

A1	A2	B1	B2	D3	E2
4	NR	1	1		

The GHP corresponds to *row q* in table 1. The component factor is 1; the multiple is 67.

The amount of component 3 in the mixture is 22%. Its GESAMP hazard profile, taken from the GESAMP Composite list, is:

A1	A2	B1	B2	D3	E2
	R	3			

This GHP corresponds to *row o* in table 1. The component factor is 10; the multiple is 220.

Step 3

Component number	Applicable Row Table 1	Component Factor (Cp)	% in mixture	Multiple (Cp x %)
1	a	100,000	11	1,100,000
2	q	1	67	67
3	o	10	22	220
Sp				1,100,287

Sp = multiple 1 + multiple 2 + multiple 3 = 1,100,287

Referring to table 2, identify the row corresponding to the calculated Sp value.

The Sp ≥ 25,000, the mixture is therefore **Pollution Category X**.

Example 2

Steps 1 and 2

The amount of component 1 is 11% of the mixture, its GESAMP hazard profile, taken from the GESAMP/EHS Composite list, is:

A1	A2	B1	B2	D3	E2
		5		C	

The GHP corresponds to *row i* in table 1. The component factor is therefore 1,000 and the multiple is 11,000.

The amount of component 2 is 67 % of the mixture, its GESAMP hazard profile, taken from the GESAMP/EHS Composite list, is:

A1	A2	B1	B2	D3	E2
4	NR		1		

This GHP corresponds to *row q* in table 1. The corresponding component factor is 1 and the multiple is 67.

The amount of component 3 is 22% of the mixture, its GESAMP hazard profile, taken from the GESAMP/EHS Composite list, is:

A1	A2	B1	B2	D3	E2
		3			

This corresponds to *row o* in table 1. The corresponding component factor is 10 and the multiple is 220.

Step 3

Component number	Applicable Row Table 1	Component Factor (Cp)	% in mixture	Multiple (Cp x %)
1	i	1,000	11	11,000
2	q	1	67	67
3	o	10	22	220
Sp				11,287

Sp = 11,287

Referring to table 2, Sp < 25,000 and Sp ≥ 25, the mixture is therefore **pollution category Y**.

Example 3

Steps 1 and 2

The amount of component 1 is 2% of the mixture, its GESAMP Hazard profile, taken from the GESAMP Composite list, is:

A1	A2	B1	B2	D3	E2
		3			

The GHP corresponds to row o in table 1. The component factor is 10; the multiple is 20.

The amount of component 2 is 4% of the mixture, its GESAMP Hazard profile, taken from the GESAMP Composite list, is completely blank.

A1	A2	B1	B2	D3	E2
4	NR		1		

The GHP corresponds to row q in table 1. The component factor is 1; the multiple is 4.

The amount of component 3 is 94% of the mixture, its GESAMP Hazard profile, taken from the GESAMP Composite list, is completely blank.

A1	A2	B1	B2	D3	E2

The GHP corresponds to row u in table 1. The component factor is 0; the multiple is 0.

All components are OS, which corresponds to row u in table 1. The component factors and multiples are both 0.

Step 3

Component number	Applicable Row Table 1	Component Factor (Cp)	% in mixture	Multiple (Cp x %)
1	o	10	2	20
2	q	1	4	4
3	u	0	94	0
Sp				24

Sp = 24

Referring to table 2, Sp < 25 and not all components are OS therefore **pollution category Y**.

Example 4

Steps 1 and 2

The amount of component 1 is 20% of the mixture, its GESAMP Hazard profile, taken from the GESAMP Composite list, is completely blank or zero.

A1	A2	B1	B2	D3	E2
		0			

Component 2 is 80% of the mixture, its GESAMP Hazard profile, taken from the GESAMP Composite list, is completely blank.

A1	A2	B1	B2	D3	E2

All components are OS, which corresponds to *row u* in table 1. The component factors and multiples are both 0.

Step 3

Component number	Applicable Row Table 1	Component Factor (Cp)	% in mixture	Multiple (Cp x %)
1	u	0	20	0
2	u	0	80	0
Sp				0

$$Sp = 0$$

Referring to table 2, a mixture where all individual components are OS, therefore **the mixture is OS**.

Example 5

Steps 1 and 2

The amount of component 1 is 70% of the mixture, its GESAMP hazard profile, taken from the GESAMP Composite list, is:

A1	A2	B1	B2	D3	E2
		4			

This corresponds to *row m* in table 1. The component factor is 100 and the multiple is 7,000.

The amount of component 2 is 29% of the mixture.

It is a diluent mineral oil so there is *no applicable row* in table 1.

The component factor assigned to diluent mineral oil is 100 (see paragraph 5.4) and the multiple is 2,900.

The amount of component 3 is 1% of the mixture.

It is an unassessed component, so there is no applicable row in table 1.

Given the component is 1% of the mixture, the component factor is 10,000 (see paragraph 5.4) and the multiple is therefore 10,000.

Step 3

Component number	Applicable Row Table 1	Component Factor (Cp)	% in mixture	Multiple (Cp x %)
1	m	100	70	7000
2	Component is diluent mineral oil	100	29	2,900
3	Unassessed component	10,000	1	10,000
Sp				19,900

Sp = 19,900

Referring to table 2, Sp < 25,000 and Sp ≥ 25. The mixture is therefore **pollution category Y**.

Example 6

Steps 1 and 2

The amount of component 1 is 2% of the mixture, its GESAMP Hazard profile, taken from the GESAMP Composite list, is:

A1	A2	B1	B2	D3	E2
5	NR			M	

This corresponds to *row d* in table 1. The component factor is 25,000 and the multiple is 50,000.

Component 2 is 98 % of the mixture, its GESAMP Hazard profile, taken from the GESAMP Composite list, is:

A1	A2	B1	B2	D3	E2
			≥ 1		

This corresponds to *row r* in table 1. The component factor is 1 and the multiple is 98.

Step 3

Component number	Applicable Row Table 1	Component Factor (Cp)	% in mixture	Multiple (Cp x %)
1	d	25,000	2	50,000
2	r	1	98	98
Sp				50,098

Sp = 50,098

Referring to table 2, the Sp ≥ 25,000, the mixture is therefore **pollution category X**.

APPENDIX 5

EXAMPLES FOR THE DETERMINATION OF SHIP TYPES FOR MIXTURES

Methodology

- Step 1** Identify ship type and the multiplication factor for each component using the IBC Code, the MEPC.2/Circular or the GESAMP Hazard Profiles, and table 3 of this circular.
- Step 2** Determine the concentration of each component and multiply the percentage by the factor identified in step 1.
- Step 3** Add multiples together and determine the resulting ship type, using table 4 of this circular.
- Step 4** Apply the previously determined pollution category of the mixture if the sum of the multiples are < 100. If they are > 100, no further action is required.

Example 1

Step 1

Component 1 is ship type 1, the multiplication factor is 1,000.
Component 2 is ship type 3, the multiplication factor is 10.
Component 3 is ship type 3, the multiplication factor is 10.

Step 2

Component 1 is 11% of the mixture. The multiple is 11,000.
Component 2 is 40 % of the mixture. The multiple is 400.
Component 3 is 49% of the mixture. The multiple is 490.

Step 3

Component number	Ship type	Factor (f)	% in mixture	Multiples (f x %)	Pollution category of mixture	Resultant ship type
1	1	1,000	11	11,000	Step 4 Not applicable (Ss >100)	1
2	3	10	40	400		
3	3	10	49	490		
Ss				11,890		

$Ss = \text{multiple 1} + \text{multiple 2} + \text{multiple 3} = 11,890$
Referring to column 1 of table 4, $Ss \geq 10,000$.

In response to the associated question in column 2 of table 4 (reading across the row), the sum of the ST 1 multiples is 11,000, i.e. $\geq 10,000$, Therefore the **Ship Type is 1**.

Example 2

Step 1

Component 1 is ship type 2 and the multiplication factor is 100.
Component 2 is ship type 3 and the multiplication factor is 10.

Step 2

Component 1 is 5% of the mixture. Multiple is 500.
Component 2 is 95% of the mixture. Multiple is 950.

Step 3

$S_s = \sum \text{multiples} = 1450$
Referring to column 1 of table 4, $10,000 > S_s \geq 1,000$.

In response to the associated question in column 2 of table 4 (reading across the row), the sum of the ST 1 & 2 multiples is 500, i.e. not $\geq 1,000$, therefore the **ship type is 3**. This is because there is no ST 1 value component in the mixture in this case and therefore the sum of ST 1 (0) + ST 2 (500) multiples = 500.

Component number	Ship type	Factor (f)	%	Multiples (f x %)	Pollution category of mixture	Resultant ship type
1	2	100	5	500	Step 4 Not applicable (S _s > 100)	3
2	3	10	95	950		
S_s				1,450		

Example 3

Step 1

Component 1 is ship type "n/a", the multiplication factor is 0.
Component 2 is ship type 3, the multiplication factor is 10.
Component 3 is diluent mineral oil, the multiplication factor is 10.

Step 2

Component 1 is 10% of the mixture. The multiple is 0.
Component 2 is 8% of the mixture. The multiple is 80.
Component 3 is 82% of the mixture. The multiple is 820.

Step 3

Component number	Ship type	Factor (f)	%	Multiples (f x %)	Pollution category of mixture	Resultant ship type
1	n/a	0	10	0	Step 4 Not applicable (S _s > 100)	3
2	3	10	8	80		
3	Diluent mineral oil	10	82	820		
S_s				900		

$S_s = 900$

Referring to column 1 of table 4, $1,000 > S_s \geq 100$.
Since there is no associated question in column 2 of table 4, the **ship type is 3**.

Example 4

Step 1

Component 1 is Ship Type 2, the multiplication factor is 1,000.
Component 2 is Ship Type 3, the multiplication factor is 10.
Component 3 is unassessed; the multiplication factor is 100.

Step 2

Component 1 is 4% of the mixture.	The multiple is 400.
Component 2 is 95 % of the mixture.	The multiple is 950.
Component 3 is 1 % of the mixture.	The multiple is 100.

Step 3

Component number	Ship type	Factor (f)	% in mixture	Multiples (f x %)	Pollution category of mixture	Resultant ship type
1	2	100	4	400	Step 4 Not applicable (S _s >100)	3
2	3	10	95	950		
3	Unassessed	100	1	100		
S_s				1,450		

$S_s = \text{multiple 1} + \text{multiple 2} + \text{multiple 3} = 1450$
Referring to column 1 of table 4, $S_s > 1,000$.

In response to the associated question in column 2 of table 4 (reading across the row), the sum of the ST 1 & 2 multiples is 1,450, i.e. $\geq 1,000$, Therefore the **ship type is 3**.

Example 5+

Step 1

Component 1 is Ship Type "n/a", the multiplication factor is 0.
Component 2 is Ship Type 3, the multiplication factor is 10.
Component 3 is Ship Type 3, the multiplication factor is 10.

Step 2

Component 1 is 91 % of the mixture.	The multiple is 0.
Component 2 is 7 % of the mixture.	The multiple is 70.
Component 3 is 2 % of the mixture.	The multiple is 20.

Step 3

Component number	Ship type	Factor (f)	% in mixture	Multiples (f x %)	Pollution category of mixture	Resultant ship type
1	n/a	0	91	0	Y	3
2	3	10	7	70		
3	3	10	2	20		
Ss				90		

$Ss = \text{multiple 1} + \text{multiple 2} + \text{multiple 3} = 90$

Referring to column 1 of table 4, $Ss < 100$.

In response to the associated question in column 2 of table 4 (reading across the row), is the Pollution Category of the X or Y, therefore the **ship type is 3**.

APPENDIX 6

**FORMAT FOR PROPOSING TRIPARTITE AGREEMENTS
FOR PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES**
(for insertion in lists 1, 3 or 4 of the MEPC.2/Circular)

Name of Product:

Proposed for inclusion in list: [] of the MEPC.2/Circular

Contains name:

(for list 3 and 4 products)

Reporting country:

Participating countries:

Company:

Proposed GESAMP hazard profile:

A1	A2	B1	B2	D3	E2

Pollution category:

Based on analogy to (if applicable):

Pollution category:

Ship type:

Proposed carriage conditions:

Column		Column		Column	
d		i'		l	
e		i''		m	-deleted-
f		i'''		n	
g		j		o	
h		k			

Additional technical information:

Property	Qualifier	Value or Range
Density (kg/m ³) @ 20°C:		
Flashpoint (°C):		
Boiling point (°C):		
Melting point/Pour point (°C):		
Water Solubility (mg/l) @ 20°C*:		
Viscosity (mPa.s) @ 20°C*:		
Vapour pressure (Pa) @ 20°C*:		
Auto-ignition temp. (°C):		
Explosive limits (%v/v):		
Hazardous reaction control necessary? (Y/N):		

***Note:** If temperatures other than 20°C are used, please indicate the reference temperature.

Toxicity/Human health:

Property	Units	Qualifier	Value or Range
Oral ATE/LD ₅₀	(mg/kg)		
Dermal ATE/LD ₅₀	(mg/kg)		
Inhalation ATE/LC ₅₀ *	(mg/l/4h)		
Corrosive to skin† (Y/N)			

	Units	Qualifier	Value or Range
Solubility in water	(mg/l)		
Autoignition temperature	°C		
Explosive/flammability range	(% v/v)		
Hazardous reaction control necessary			
Corrosive to steel			

* The criteria for inhalation toxicity are based on LC50 data relating to four-hour exposures. Where LC50 data for one-hour exposures are available, such values can be divided by 4 to be considered equivalent to LC50 (four hours).

† If corrosive, include exposure time (hours).

ANNEX 5

DRAFT REVISED BLG.1/CIRC.33 DECISIONS WITH REGARD TO THE CATEGORIZATION AND CLASSIFICATION OF PRODUCTS

Reference is made to documents BLG/Circ.15, BLG 11/3/2, BLG 12/3, BLG 14/3, BLG 15/3, BLG 16/3, PPR 3/WP.3, PPR 5/3, PPR 5/WP.4 and PPR 6/3 for further background on the relevant decisions.

- .1 "NI" in column A2 should be regarded as "NR" (Not Readily Biodegradable).
- .2 "NI" in column B2:
 - .1 if, in the GESAMP Hazard Profile, column B2 is "NI" or column A1 is "NI" or column A2 is "NI" then there is not enough data to apply the GHS criteria and so the product is deemed to have chronic toxicity to aquatic organisms; but
 - .2 .1 if the aquatic LC₅₀ is <100 mg/l (column B1 is 2, 3, 4, 5 or 6); and .2 the product is Not Readily Biodegradable (column A2 is "NR") or the product is bioaccumulative (column A1 is 4, 5 or 6);
then the product is deemed to have a chronic toxicity of <1 mg/l which is equivalent to a "1" in column B2. Otherwise,
.3 the product is deemed not to have chronic toxicity.
- .3 "NI" in column E2 should be regarded as "F" or "S" (Floater or Sinker), however, during the classification revision process it was agreed to qualify floaters, based on their properties, either as an F or as an Fp (persistent floater). -Since an F alone has no impact on the assignment of ship typing, NI in column E2 should be regarded as Fp.
- .4 "NI" in other columns used for classification purposes should be regarded as insufficient data to permit proper classification.
- .5 GESAMP Hazard Profiles with ratings in brackets (indicating estimated values) are treated in the same manner as ratings without brackets for the purposes of product classification.
- .6 Only the ratings "R" and "NR" are used in column A2 for categorization purposes and so it is necessary to translate the notation "Inorg" into a rating that can be used for categorization. -The rating of "Inorg," is taken to mean a product would be readily biodegradable.
- .7 When a material has floater characteristics but this is combined with dissolution or evaporation properties (having an FD, FE or FED rating for column E2 in the GESAMP Hazard Profile), consideration of this combined rating should not trigger a Pollution Category Y on the basis of the F reference presented in column E2 of the hazard profile in view of the substance's associated properties and behaviour.

- .8 When assigning the pollution category of a product in relation to the condition "not Fp, F or S (if not organic)" as set out in rule 13 of appendix 1 to MARPOL Annex II, it was confirmed that "if not organic" has the same meaning as "unless inorganic".
- .9 Procedures for estimating acute inhalation toxicity ratings are reflected in the report of the forty-first session of the GESAMP/EHS Working Group (BLG/Circ.15, annex 3). The decision table utilized for this purpose which is based on C1/C2 and D1/D2 ratings is shown below:

Highest Oral and/or Dermal ratings for Columns C1 and/or C2	Highest Skin and/or Eye irritation ratings for Columns D1 and/or D2	Proposed estimated Acute Inhalation Toxicity rating for Column C3
0	0	0
	1	1
	2	2
	3	3
1	0	1
	1	2
	2	
	3	3
2	0	2
	1	
	2	
	3	3
3	0	3
	1	4
	2	
	3	
4	0	4
	1	
	2	
	3	

- .10 In the case of ~~brine~~ inorganic] ~~brine~~ solid substances transported in aqueous solution where it can be shown that the solids salts concerned are non-volatile and that there is a minimal risk of generating aerosols or mists from solutions during transport and transfer, the provisions in chapter 21 of the IBC Code (paragraph 21.1.3), where human factors or other factors indicate a need for alternative arrangements to be followed when assessing carriage requirements, should be considered. -Based on the following criteria:

- .1 the substance itself has low volatility and high stability under ambient temperature and pressure conditions; and
- .2 the solution does not produce hazardous ~~toxic~~ vapours,

it may be appropriate that a requirement for controlled venting or gauging or operational requirements, in relation to the inhalation toxicity (C3) or corrosivity (D1) ratings, are not required. If this approach is followed, to formalize this position, a footnote/reference indicating this by using the wording below, should be associated with the product entry:

"With reference to chapter 21 of the IBC Code (paragraph 21.1.3) deviations from the normal assignment criteria used for some carriage requirements have been implemented."

It should be noted that use of the above reference is not intended for tripartite agreements but only for products which have been assessed and agreed by the ESPH Working Group.

- .11 When products are shipped not in pure form but only as components in mixtures it is only necessary to have ratings in columns A1, A2, B1, B2, D3 and E2. The ship type of these products can be established based on the GESAMP/EHS report, after which the entry will be included in annex 5 to the MEPC.2/Circ. and can be used for mixture calculation purposes. -If the component presents a safety hazard this should be taken into account. -Submissions to GESAMP/EHS should clearly state the application relates to a reduced hazard profile for annex 5 purposes.
- .12 In cases where products which contain mineral oil are proposed as entries for list 1 but the products are not conventional mixtures since the oil is a diluent which is present as a necessary consequence of manufacture and hence effectively integral to the product concerned, the term mineral oil does not need to be reflected in the product name.
- .13 As the boiling point of a product is not always less than its autoignition temperature, boiling point should not be used to estimate flammability criteria. -Additionally,
- .1 if the autoignition temperature is $>200^{\circ}\text{C}$, then an accurate value does not need to be provided unless the flashpoint is $\leq 60^{\circ}\text{C}$, when it is required to assign electrical apparatus; and
 - .2 if the autoignition temperature is $\leq 200^{\circ}\text{C}$, then an accurate value is needed to assign certain carriage requirements.
- .14 Column "I" of chapter 17 of the IBC Code should list all suitable fire-fighting media in order to allow an appropriate type to be selected for the range of products to be carried on a ship. -Although in paragraph 21.4.12.1 of the IBC Code it states that "all appropriate media shall be listed", with respect to the need to specify Dry Chemical (D) usage, this should not be used unless the Water Reactivity Index (WRI) condition is invoked (WRI to be ≥ 1).
- .15 (Aqueous solution), in line with established practice for reporting water solutions, the term aqueous should be deleted and the brackets removed.
- .16 If there is no information in columns i' and i'' the default requirement is set as T4 and IIB respectively, if the -flashpoint of the product is $\leq 60^{\circ}\text{C}$ or if the product is heated to within 15°C of its flashpoint.
- .17 Taking into account that some components of mixtures can potentially react chemically with each other, manufacturers should provide information, in the PPR Product Data Reporting Form, on the final composition of mixtures as far as practicable, rather than simply providing the initial "recipe" chemicals.

APPENDIX

RESULTS OF THE DISCUSSION ON THE RATIONALE FOR DEVIATION OF CARRIAGE REQUIREMENTS SET OUT IN THE REVISED CHAPTER 21 OF THE IBC CODE

The following paragraphs set out the results of the Group's deliberations on the products proposed for which carriage requirements that deviate from the criteria set out in the revised chapter 21 of the IBC Code.

1. **Ammonium nitrate solution (93% or less):** it was agreed that this product would require 1G tanks due to the carriage temperature and the thermal stress placed on the structure, if shipped in 2G tanks. It was further agreed that Special Requirement 15.2 should be amended to make this clear.
2. **Ammonium sulphide solution (45% or less):** it was agreed that due to the Temperature Class being rated as T4, i.e. auto-ignition temperature <200°C due to H₂S, then a ship type 2 would be required for this product.
3. **Coal tar pitch (molten):** it was agreed that due to the high carriage temperature, 1G tanks should be retained due to the stress levels on the structure.
4. **Diethyl ether:** it was noted that this product has a high vapour pressure and was also listed in chapter 19 of the IGC Code. It was therefore agreed that the appropriate section of chapter 15 of the IBC Code should be amended to identify that 1G tanks would be appropriate for carrying this product.
5. **Ethylamine:** it was noted that this product was also included in chapter 19 of the IGC Code. Given its high vapour pressure, it was agreed that carriage in 1G tanks should be retained for this product.
- ~~6.~~ **Hydrochloric acid:** it was agreed that the product should be retained in 1G tanks due to its corrosivity and that a new special requirement be added following 15.8 to indicate that hydrochloric acid should only be carried in 1G tanks.
- ~~6.7.~~ **Methyl alcohol:** during the review of chapters 17 and 18 of the IBC Code, it was agreed the requirements in paragraph 15.12.3.1 of the IBC Code would not be applied to the revised carriage requirements, on the basis of experience and expert judgement. All other requirements of 15.12 would apply in addition to all other applicable carriage requirements.
- ~~7.8.~~ **Phosphoric acid:** the Group could not agree on the proposed deviation to the carriage requirements, based on the information presented. The Group therefore requested industry to submit data on the C1 and C2 ratings to GESAMP to reassess the GESAMP Hazard Rating, as the current C1 and C2 ratings were not based on actual data, but by analogy to the D1 and D2 ratings.
- ~~8.9.~~ **Phosphorus, yellow or white:** it was agreed that the existing tank type should be retained as the special requirements in 15.7 implied independent tanks. It was also agreed that the wording in chapter 15.7 would need to be amended to emphasis this point.
- ~~9.10.~~ **Sodium hydrosulphide/Ammonium sulphide solution:** it was agreed that due to the temperature class being rated as T4, i.e. auto-ignition temperature <200°C, then a ship type 2 would be required.

~~10.11.~~ **Sulphur (molten)**: -due to its carriage at high temperature and corresponding stress on the tank, it was agreed to retain its carriage in 1G tanks. It was also agreed that special requirement 15.10 would need to be amended and a new entry under 15.10.7 be added to require the carriage of this product in 1G tanks only.

ANNEX 6¹

DRAFT ANNEX 12 TO MEPC.2/CIRC.24

ENERGY-RICH FUELS SUBJECT TO ANNEX I OF MARPOL

The following have been agreed as recognized energy-rich fuels in accordance with the *[2018] Guidelines for the carriage of energy-rich fuels and their blends* (MEPC.1/Circ...):

Alkanes (C4-C12) linear, branched and cyclic (containing benzene up to 1%)

Alkanes (C5-C7), linear and branched

Alkanes (C9-C24) linear, branched and cyclic with a flashpoint $\leq 60^{\circ}\text{C}$

Alkanes (C9-C24) linear, branched and cyclic with a flashpoint $> 60^{\circ}\text{C}$

Alkanes (C10-C17), linear and branched

Alkanes (C10-C26), linear and branched with a flashpoint $\leq 60^{\circ}\text{C}$

Alkanes (C10-C26), linear and branched with a flashpoint $> 60^{\circ}\text{C}$

¹ Available in English only.

ANNEX 7¹

PROPOSED PROVISIONAL AGENDA FOR ESPH 25

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other bodies
 - 3 Evaluation of products
 - 4 Evaluation of cleaning additives
 - 5 Review of MEPC.2/Circular – Provisional classification of liquid substances transported in bulk and other related matters
 - [6 Revision of MEPC.1/Circ.512 – Guidelines for the provisional assessment of liquid substances transported in bulk]
 - [7 Revision of BLG.1/Circ.33 – Decisions with regard to the categorization and classification of products]
 - [8 Guidance for the assessing and classifying products under Annexes I and II of MARPOL]
 - 9 Proposed provisional agenda for ESPH 26
 - 10 Report to the Sub-Committee
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¹ Available in English only.