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Ref. T5/1.01

MEPC.1/Circ.512
16 May 2006

REVISED GUIDELINES FOR THE PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES TRANSPORTED IN BULK

1 Attached hereto are the revised Guidelines for the Provisional assessment of liquid substances transported in bulk which were approved by the Marine Environment Protection Committee at its fifty-fourth session (20 to 24 March 2006). The present circular supersedes MEPC/Circ.265.

2 The Guidelines are revised as a consequence of the revision of Annex II to MARPOL 73/78 and the consequential amendments to the IBC Code.

3 The Guidelines provide step-by-step procedures for ascertaining the carriage requirements for all products offered for carriage in bulk.

4 Attention is drawn to the provisions of section 8 of the revised Guidelines which require that, when a provisional assessment has been made of a pure or technically pure product or mixture containing more than 1% by weight of unassessed components, the manufacturer should submit data to GESAMP/EHS. Based on the data submitted, the product will be evaluated by GESAMP/EHS. After receiving the complete GESAMP Hazard Profile, the manufacturer shall submit to the Administration a completed BLG Product Data Reporting Form including the proposed assessment for Pollution Category and Ship Type and carriage requirements. The Administration shall submit the form and a proposal for a new and complete entry in the IBC Code to IMO.

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ANNEX

GUIDELINES FOR THE PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES TRANSPORTED IN BULK

Section 1: INTRODUCTION

1.1 The carriage of liquid substances in bulk is regulated by SOLAS 74 as amended and MARPOL 73/78 for safety and pollution prevention purposes.

1.2 Liquid cargoes which 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, hereafter referred to as "products".

1.3 Liquefied gases are listed in chapter 19 of the IGC Code and their shipment is subject to the provisions of that Code.

1.4 "Oil" 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 the present Convention) and, without limiting the generality of the foregoing, includes the substances listed in appendix I to MARPOL Annex I.

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

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

1.7 The requirements for the carriage of products in bulk are defined in the IBC and BCH Codes. The IBC Code applies to chemical tankers built on or after 1 July 1986 and is mandatory under both SOLAS 74 as amended and MARPOL 73/78. The BCH Code applies to those built before 1 July 1986. The latter is mandatory under MARPOL 73/78 and recommended under SOLAS 74, as amended.

1.8 In the present guidelines reference is made to the IBC Code only, for the sake of brevity; however, it implies reference to the BCH Code as well, as applicable.

1.9 The procedures described in the present guidelines are presented in diagram form in appendix 1.

Section 2: ASSESSED PRODUCTS

2.1 If a liquid substance is to be shipped as a product, the shipper should first check whether the product is listed in chapter 17 or 18 of the IBC Code, or in chapter 19 (Index of Products Carried in Bulk) or in the latest edition of MEPC.2/Circular.

2.2 A product must be shipped under the product name listed in chapter 17 or 18 of the IBC Code or in the latest edition of MEPC.2/Circular.

2.3 The products listed in the IBC Code are mainly pure or technically pure products, including their aqueous solutions.

2.4 The list of products in chapters 17 and 18 of the IBC Code will be updated in each consecutive edition.

2.5 The Index of Products Carried in Bulk (later referred to as Index) gives most of the commonly used synonyms of the products listed in the IBC Code. The Index will also be updated in each consecutive edition of the IBC Code.

2.6 If the product is neither listed in chapter 17 or 18 of the IBC Code nor in the Index, the next step is to check the potential entries to chapters 17 and 18 of the IBC Code. Such a list is issued yearly (17 December) as List 1 of the MEPC.2/Circular. The same Circular also includes a list of pollutant only mixtures classified by calculation or assessed as a mixture, List 2 (covered in section 5), a list of trade-named mixtures of assessed products with safety hazards, List 3 (covered in section 6) and a list of pollutant only mixtures with >1 % unassessed components, List 4 (covered in section 7).

2.7 If the product is neither listed in the IBC Code, nor published in the MEPC.2/Circular, it is necessary to check whether the product has already been provisionally assessed by tripartite agreement by contacting the Organization.

2.8 If a product has already been assessed by tripartite agreement, any newly initiating shipping or producing country should review the basis of the previous assessment with a view to agreeing with the previous assessment. When carrying out this review, new data should be taken into account, if available, so an accurate assessment can be made in accordance with section 4.

2.9 If the shipping or producing country is already a Party to a provisional assessment of the product in question, of which one or more of the flag States and/or receiving countries are not Parties, the shipping or producing country will ask them to join in the existing agreement.

Section 3: UNASSESSED PRODUCTS

3.1 The products to be assessed can be divided into the following groups:

.1 pure or technically pure products (see section 4);

.2 pollutant only mixtures containing at least 99% by weight of components already assessed by IMO (see section 5);

.3 (trade named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards (see section 6);

.4 mixtures containing one or more components, forming more than 1% by weight of the mixture, which have not yet been assessed by IMO (see section 7).

3.2 The products or mixtures referred to in 3.1.1, 3.1.3 and 3.1.4 will be provisionally assessed by tripartite agreement, in accordance with regulation 6.3 of Annex II to MARPOL 73/78.

3.3 Mixtures in 3.1.2 will be assessed in a simplified manner. Due to the purely mechanical nature of such an assessment, it is not necessary for the shipping or producing country to seek the concurrence of the flag States and receiving countries (see section 5). Until the mixture is included in the MEPC.2/Circular, List 2, it is still necessary to inform the flag States and receiving countries on the assessment of the mixture. These mixtures will be shipped under the applicable generic entry to the IBC Code (i.e. Noxious Liquid (n.o.s.) or Non-Noxious Liquid (n.o.s.)).

3.4 Provisional assessments by tripartite agreement will expire after 3 years of publication in the MEPC.2/Circ. It is intended that during this period the product will be assessed by IMO (see section 8). After expiration of a tripartite agreement, no new tripartite agreement for the same product, even under a different name, shall be established.

3.5 It is in the best interest of the manufacturer/shipper to submit the data necessary for a provisional assessment to the Administration of the shipping or producing country - well in advance of the shipment. The Administration should avoid unnecessary delays in initiating a tripartite agreement, after receiving the complete set of information.

3.6 After the provisional assessment of the products in 3.1.1, 3.1.3 and 3.1.4 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 ship sails. An example of an addendum is given in appendix 2.

3.7 Until full agreement for the provisional assessment among Governments involved has been reached, the products shall not be carried.

Section 4: PROVISIONAL ASSESSMENT OF PURE OR TECHNICALLY PURE PRODUCTS

4.1 In case of pure or technically pure products, the Administration of the shipping or producing country should provisionally assess the Pollution Category, the Ship Type and the carriage requirements, on the basis of the pollution and safety data supplied by the manufacturer/shipper.

4.2 **Pollution aspects**

The following reference documents provide guidance for the Administration to assess the new product's pollution hazard:

.1 Guidelines for the Categorization of Noxious Liquid Substances (MARPOL 73/78, Annex II, appendix 1);

.2 Abbreviated Legend to the revised GESAMP Hazard Evaluation Procedure (MARPOL 73/78, Annex II, appendix 1); and

.3 Relevant parts of chapter 21 of the IBC Code: "Criteria for assigning carriage requirements for products subject to the IBC Code", from a marine pollution point of view.

4.3 The first step for the Administration is to check the latest composite list of hazard profiles of substances carried by ships, issued periodically by IMO under cover of a BLG circular.

4.4 If a hazard profile can be found for the product in question, its Pollution Category should be derived from it in accordance with references 4.2.1. The Ship Type and carriage requirements, in so far as the pollution hazard is concerned, should be derived from references 4.2.3.

4.5 If no hazard profile exists, all the available data to establish a provisional one should be reviewed.

4.6 When adequate data are available, a provisional hazard profile should be derived, following the criteria developed by GESAMP/EHS (see reference 4.2.2). The provisional Pollution Category should be derived from this provisional hazard profile in accordance with 4.2.1. The Ship Type and carriage requirements, based upon its pollution hazard, should be derived in accordance with 4.2.3.

4.7 When sufficient data are not available, the Administration should make an assessment by analogy to chemically similar substances from the following sources:

.1 the IBC Code including the Index;

.2 the MEPC.2/Circular referred to in paragraph 2.5, listing the substances assessed by IMO and those provisionally assessed by tripartite agreement; and

.3 the BLG circular referred to in paragraph 4.3, listing the substances for which a hazard profile exists.

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

Safety aspects

4.8 After assessment of the pollution hazards, the possible safety hazards of the product should be assessed.

4.9 For this assessment reference is made to the relevant parts of chapter 21 of the IBC Code: "Criteria for assigning carriage requirements for products subject to the IBC Code", from a safety point of view.

4.10 If the product to be provisionally assessed presents a safety hazard, the Administration should assign carriage requirements in accordance with the above-mentioned criteria. These requirements have to be integrated with those previously assigned for pollution prevention purposes only and the most stringent set has to be adopted. If necessary, the Administration should revise the Ship Type previously assigned for pollution considerations only.

Administrative Aspects

4.11 At this point, the Administration of the shipping or producing country, having provisionally assessed the product in question, should seek the concurrence of the Administrations of the Flag State(s) and receiving countries with its evaluation, by providing information on which the provisional pollution and safety hazard assessment has been based. For this purpose, the standard format for proposing tripartite agreements for the provisional assessment of liquid substances, reproduced in appendix 3, should be used.

4.12 In the absence of an interim or final response to the notification from any of the other Parties involved within 14 days of the despatch, the proposed provisional assessment made by the Administration of the shipping or producing country should be deemed to have been accepted. In this respect it should be noted that those contact points which have not informed the Organization of their latest contact details should be deemed to have accepted the tripartite agreements whilst other contact points should still follow regulation 6(3) of Annex II of MARPOL 73/78 and these guidelines (reference is made to resolution MEPC.109(49)).

4.13 In the event of disagreement the most severe conditions proposed should prevail to obtain the tripartite agreement.

4.14 After express or tacit agreement has been reached, the proposing Administration should inform IMO, as required by regulation 6.3 of Annex II (i.e. within 30 days but preferably as soon as possible). It is recommended to use the format, referred to in 4.11, for this purpose.

4.15 After establishing a tripartite agreement, an addendum to the relevant ship's certificate may be issued.

4.16 The manufacturer should then promptly forward to GESAMP/EHS all data necessary for a formal hazard evaluation (see section 8).

Section 5: ASSIGNMENT OF POLLUTANT ONLY MIXTURES CONTAINING PRODUCTS ALREADY ASSESSED BY IMO

5.1 This section deals with the mixtures defined in paragraph 3.1.2, i.e. those presenting no safety hazard and containing at least 99% wt of products assessed by IMO. Those products assessed by IMO are limited to:

.1 those listed in chapters 17 and 18 of the IBC Code;

.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.

Such a mixture may contain components with safety hazards (designated by "S" or "S/P" in *column d* in chapter 17 of the IBC Code) as long as they are so diluted that the final mixture presents no safety hazard.

5.2 The Pollution Category and the Ship Type of these mixtures are derived from the GESAMP Hazard Profiles of the components by the calculation method in 5.3 and 5.4. For the purpose of this calculation, unassessed components up to 1% should be assigned by the component factor of 10,000 for pollution categorization. For the assignment of the Ship Type the component factor is 100.

5.3 Calculation of the Pollution Category

The first step is to establish the Pollution Category of the mixture by the following procedure:

.1 identify the revised GESAMP Hazard Profile (GHP) of each component from the latest edition of the BLG circulars;

.2 multiply the concentration of each identified component in the mixture, expressed in percent by weight, by the factor associated with its GHP, taking the ratings resulting in the highest component factor into account, using the following table 1:

Table 1

Row	**Rule No** (Guidelines for categorization, App. 1 to 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
q	*8*	≥4	NR		Not 0			1	q
r	*9*				≥1			1	r
s	*10*						Fp,F or S if not ~~Inorg~~ 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

.3 Add the resultant multiples to obtain the value Sp

$$Sp = \Sigma \text{ (Each component \%wt) x (Each component factor)}$$

X $Sp \geq 25{,}000$

Y $Sp < 25{,}000$ and $Sp \geq 25$

Z $Sp < 25$ unless all individual components are OS

OS a mixture where all individual components are OS

Mineral oil*: component factor for diluent mineral oil in lube oil additives = 100

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

5.4 Calculation of the Ship Type

The next step is to establish the Ship Type of the mixture by the following procedure:

.1 identify the Ship Type of each component from the IBC Code or the MEPC.2/Circular;

.2 multiply the concentration of each component in the mixture, expressed in percent by weight, by the factor associated to its Ship Type according to the following table 2;

Table 2

Ship Type	**Factor**
1	1,000
2	100
3	10
NA	0
Diluent mineral oil in lube oil additives	10

.3 add the resultant multiples to obtain the value "Ss";

.4 refer to the left-hand column of the flow chart for determining Ship Types and identify the row that corresponds to the value of "Ss"; and

.5 read across this row, answering the relevant questions in the middle column, to determine the Ship Type for the mixture, as shown in the right-hand column.

Flow Chart for determining Ship Types

Sum of multiples	**Question**	**Answer**	**Resulting Ship Type**
Ss ≥ 10,000	Is the sum of ST 1 multiples ≥ 10,000?	Yes → No →	1 2
10,000 > Ss ≥1,000	Is the sum of ST 1 & 2 multiples ≥1,000?	Yes → No →	2 3
1,000 > Ss ≥100			3
Ss <100	Is the Pollution Category of the mixture X or Y?	Yes → No →	3 NA

5.5 Examples of the calculation of the Pollution Category and the Ship Type of mixtures are given in appendix 6.

5.6 On the basis of the Pollution Category and Ship Type so calculated and of its flash point, a mixture is then assigned to the appropriate "Noxious (or non-noxious) liquid, n.o.s." generic entry to the IBC Code with the corresponding carriage requirements.

5.7 A mixture is designated in the shipping document by reference to the appropriate generic n.o.s. entry to the IBC Code, completed by the indication of a trade name and of one component responsible for the assigned Pollution Category. Trade names should not be such as to be confused with generally used chemical descriptions. Components should be identified by their name in either the IBC Code or the MEPC.2/Circular, List 1.

5.8 With reference to the diluent mineral oil which could be responsible for the final Pollution Category being assigned to a lube oil additive mixture, the designation of the mixture should include "contains mineral oil".

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

5.10 In this case, the obligation to inform the flag States and the receiving countries of the performed 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 the authorization letter indicating that the manufacturer acts under instruction and on behalf of the Administration until such authorization is recorded in the MEPC.2/Circular. After notification the mixture shall be recorded in the next edition of the MEPC.2/Circular, List 2.

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

Section 6: ASSESSMENT OF TRADE NAMED MIXTURES PRESENTING SAFETY HAZARDS CONTAINING ONLY PRODUCTS ALREADY ASSESSED BY IMO

6.1 This section deals with the mixtures defined in paragraph 3.1.3, i.e. those presenting a safety hazard (one or more of the components designated by S or S/P) and containing at least 99% wt of products assessed by IMO.

Products assessed by IMO are limited to:

.1 those listed in chapters 17 and 18 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.

These mixtures contain components with safety hazards (designated by an "S" or "S/P" in *column d* of chapter 17 of the IBC Code) to such an extent that they impart a safety hazard to the final mixture.

6.2 The Pollution Category of these mixtures is calculated, as shown in paragraph 5.3.

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.

6.5 These mixtures, presenting safety hazards, cannot be shipped under Noxious Liquid n.o.s. generic entries in the IBC Code. Therefore, an appropriate shipping name will need to be assigned to the mixture. This will identify the principal substances responsible for the safety and pollution (if applicable) hazards of the mixture and may include its trade name.

6.6 The Administration should now proceed to obtain a tripartite agreement and to inform IMO, as indicated in paragraphs 4.11, 4.12, 4.13 and 4.14. The provisional assessment will be valid for three years.

6.7 The shipping name, Pollution Category, Ship Type and carriage requirements provisionally assigned by tripartite agreement will be evaluated by IMO based on information in the BLG data reporting form submitted by the Administration of the producing or shipping country for final inclusion of the mixture in the MEPC.2/Circular, List 3, without an expiry date.

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

7.1 This section deals with the mixtures defined in paragraph 3.1.4, i.e. those containing one or more components, forming more than 1% wt of the mixture, which have not yet been assessed by IMO and therefore are not listed in either chapters 17 or 18 of the IBC Code, or in the MEPC.2/Circular.

7.2 There are two alternative ways of assessing these mixtures:

.1 If sufficient data are available on the mixture as a whole, it should be assessed as if it were a pure or technically pure product, as shown in section 4.

.2 If sufficient data on the mixture as a whole are not available, the producing or shipping country Administration should first provisionally assess each unassessed component according to section 4 and then 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.

7.3 Mixtures presenting pollution hazards only

7.3.1 After provisional assessment by tripartite agreement, pollutant-only mixtures containing unassessed components will be shipped under one of the "Noxious (or non-noxious) liquid, n.o.s." generic entries to the IBC Code, without the need for an addendum to the ship's Certificate of Fitness.

7.3.2 The Administration of the producing or shipping country should inform IMO on the results of the tripartite agreement within 30 days. The results will be included in the next edition of the MEPC.2/Circular, List 4.

7.3.3 The manufacturer will forward to GESAMP/EHS the available data on the mixture as a whole in the case of 7.2.1 or on each individual unassessed component in the case of 7.2.2, in order to assess the respective Hazard Profiles. This should be done as soon as possible, using the format reproduced in annex 8.

7.4 Mixtures presenting safety hazards

7.4.1 When an unassessed component shows safety hazards, the Administration of the producing or shipping 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.

7.4.2 When a tripartite agreement is reached for the component in 7.4.1, follow the procedure set out in section 6.

7.4.3 Provisionally assessed mixtures presenting safety hazards will be included in the List 3 of MEPC.2/Circular with an expiry date of three years.

7.5 The manufacturer will forward to GESAMP/EHS the available data on the mixture as a whole 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 Hazard Profiles. This should be done as soon as possible, using the format reproduced in annex 8.

Section 8: SUBMISSION OF DATA TO GESAMP/EHS AND IMO

8.1 As soon as possible after a provisional assessment has been made of a pure or technically pure product or of a mixture containing more than 1% by weight of unassessed components, the manufacturer should submit to the GESAMP/EHS* Technical Secretariat the data required to develop a hazard profile of the substance or component or mixture, using the format shown in Annex 7 of GESAMP Reports and Studies No. 64.

8.2 After receiving the complete GESAMP Hazard Profile, the manufacturer shall submit to the Administration a completed BLG Product Data Reporting Form based on the assessed product by GESAMP/EHS and, where possible, including the proposed assessment for Pollution Category and Ship Type and carriage requirements. The Administration should submit a proposal including the form for a new and complete entry in the IBC Code to IMO. A format of the BLG Product Data Reporting Form is shown in appendix 4 and can be downloaded from www.imo.org *click on* Marine Environment *click on* Chemicals reporting forms *click on* BLG Product Data Reporting Form.

8.3 Unless such a substance, component or mixture has been evaluated by the GESAMP/EHS and IMO in the meantime, its provisional assessment by tripartite agreement will cease to be valid three years after the date of publication in the MEPC.2/Circular. After expiration of a tripartite agreement, no new tripartite agreement for the same product, even under a different name, shall be established.

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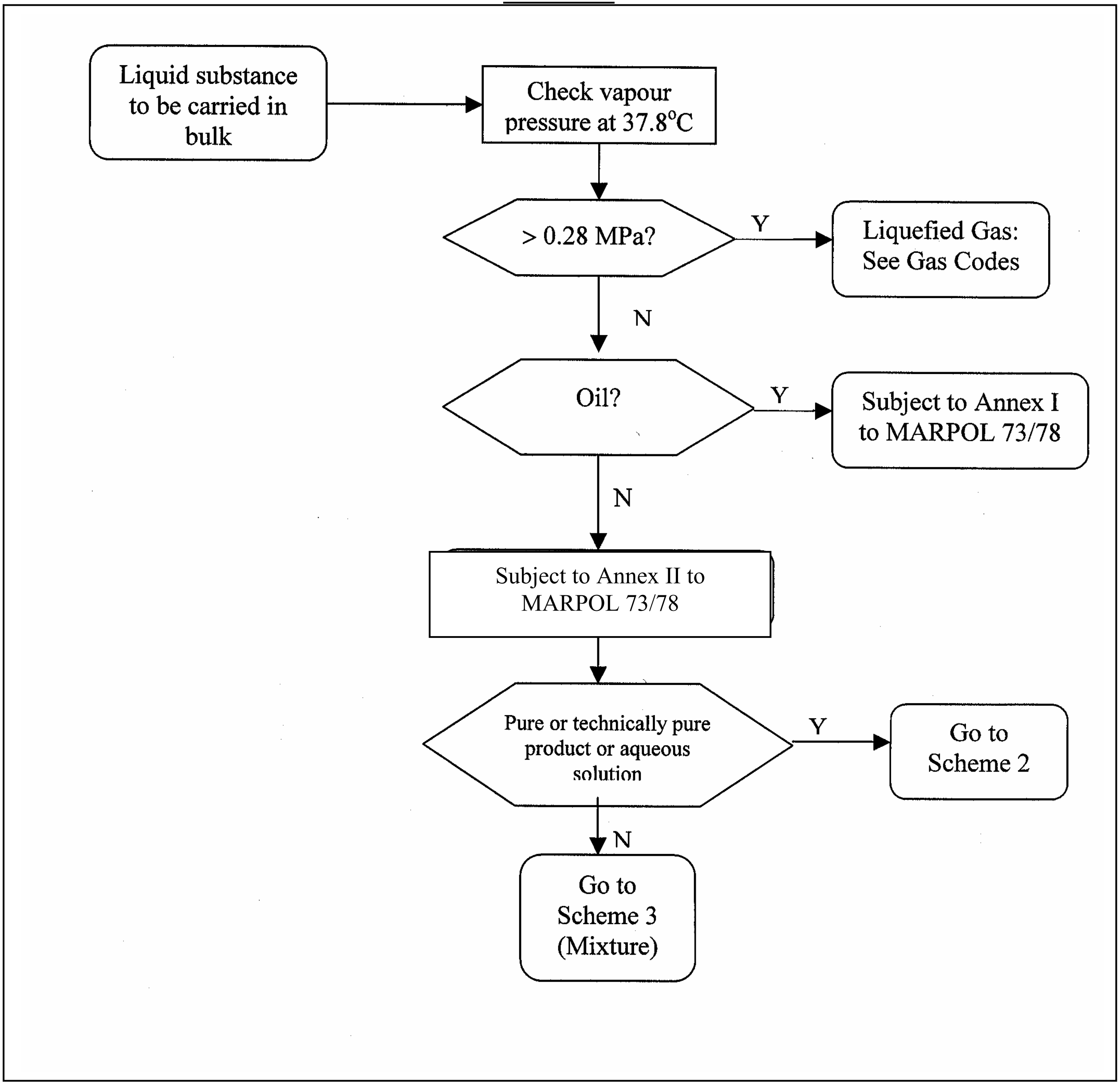
* The completed form should be sent to:

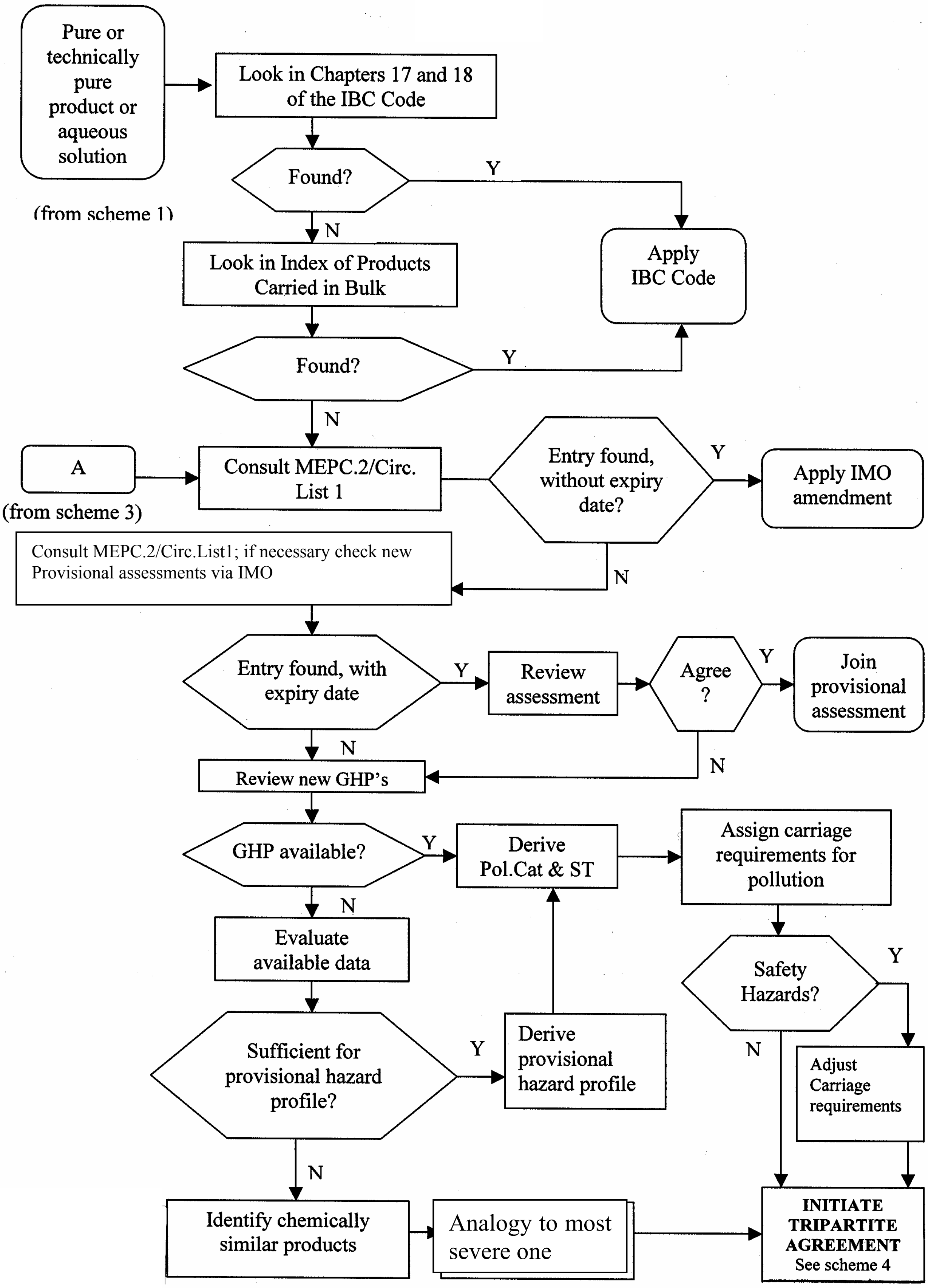
The Technical Secretary of GESAMP/EHS Working Group
International Maritime Organization (IMO)
4 Albert Embankment
London SEl 7SR
United Kingdom

Appendix 1

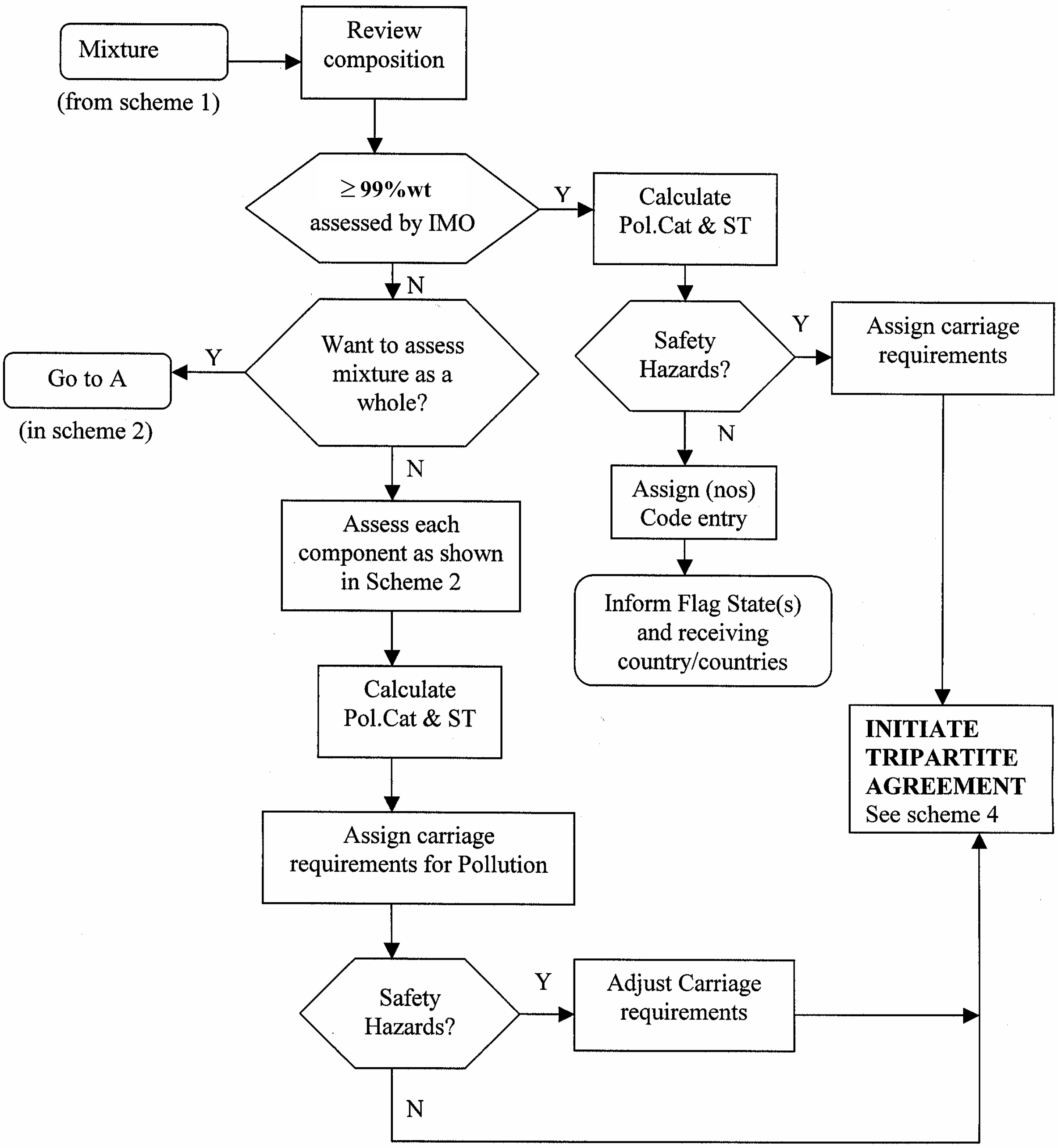
Scheme 1



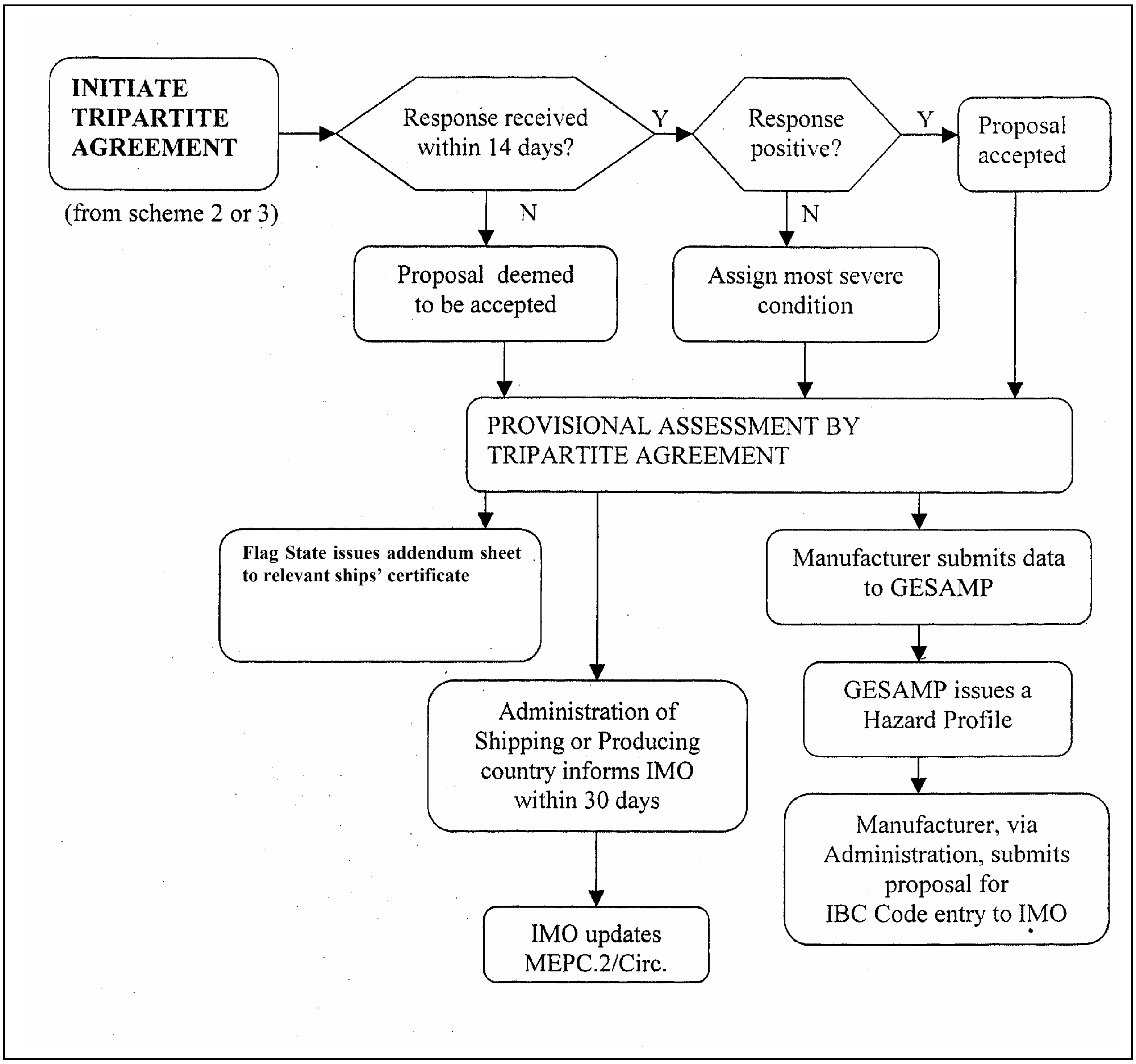
Scheme 2


Pure or technically pure product or aqueous solution
(from scheme 1)
Look in Chapters 17 and 18 of the IBC Code
Found?
Y
N
Apply IBC Code
Look in Index of Products Carried in Bulk
Found?
Y
N
A
(from scheme 3)
Consult MEPC.2/Circ. List 1
Entry found, without expiry date?
Y
Apply IMO amendment
N
Consult MEPC.2/Circ.List1; if necessary check new Provisional assessments via IMO
Entry found, with expiry date
Y
Review assessment
Agree ?
Y
Join provisional assessment
N
N
Review new GHP's
GHP available?
Y
Derive Pol.Cat & ST
Assign carriage requirements for pollution
N
Evaluate available data
Safety Hazards?
Y
N
Adjust Carriage requirements
Sufficient for provisional hazard profile?
Y
Derive provisional hazard profile
N
Identify chemically similar products
Analogy to most severe one
INITIATE TRIPARTITE AGREEMENT
See scheme 4

Scheme 3


Mixture
(from scheme 1)
Review composition
≥ 99%wt assessed by IMO
Y
Calculate Pol.Cat & ST
N
Want to assess mixture as a whole?
Y
Go to A
(in scheme 2)
Safety Hazards?
Y
Assign carriage requirements
N
Assign (nos) Code entry
Inform Flag State(s) and receiving country/countries
N
Assess each component as shown in Scheme 2
Calculate Pol.Cat & ST
Assign carriage requirements for Pollution
INITIATE TRIPARTITE AGREEMENT
See scheme 4
Safety Hazards?
Y
Adjust Carriage requirements
N

Scheme 4


INITIATE TRIPARTITE AGREEMENT
(from scheme 2 or 3)
Response received within 14 days?
Y
N
Response positive?
Y
N
Proposal accepted
Proposal deemed to be accepted
Assign most severe condition
PROVISIONAL ASSESSMENT BY TRIPARTITE AGREEMENT
Flag State issues addendum sheet to relevant ships' certificate
Manufacturer submits data to GESAMP
GESAMP issues a Hazard Profile
Administration of Shipping or Producing country informs IMO within 30 days
Manufacturer, via Administration, submits proposal for IBC Code entry to IMO
IMO updates MEPC.2/Circ.

Appendix 2

EXAMPLE OF AN ADDENDUM TO THE SHIP'S CERTIFICATE OF FITNESS / 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 73/78 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 73/78 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 3

FORMAT FOR PROPOSING TRIPARTITE AGREEMENTS FOR PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES

(for insertion in lists 1, 3 or 4 of the MEPC.2/Circ.)

Name of Product:
proposed for inclusion in list: of MEPC.2/Circ.

Proposed pollution hazard profile:

A1	**A2**	**B1**	**B2**	**D3**	**E2**

Pollution hazard profile based on: by analogy to

resulting in proposed Pollution Category: and Ship Type (pollution hazard):

Additional information regarding pollution aspects:

Melting/pourpoint: °C (specify):
Viscosity (mPa.s) at 20 °C:

Safety information:

Vapour pressure (Pa): at °C Boiling point: °C

Flashpoint (c.c): °C

Density: (kg/m^3)

Relevant toxicity: Acute inhalation toxicity* (LC_{50}; mg/l/4hr):
Acute dermal toxicity (LD_{50}; mg/kg):
Acute oral toxicity (LD_{50}; mg/kg):
Corrosivity to skin (skin necrosis):

Chemical properties: Solubility in water (mg/l):
Autoignition temperature: °C
Explosive/flammability range (% v/v):
Hazardous reaction control necessary: water
Corrosive to steel:

* The criteria for inhalation toxicity are based on LC_{50} data relating to 4 hr exposures: where such information is available it should be used. Where LC_{50} data relating to 1 hr exposures are available, such values can be divided by 4 to be considered equivalent to LC_{50} (4hr).

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

** Ship Type may have been overruled by safety aspects.

Appendix 4

BLG Product Data Reporting Form

(Characteristics of Products proposed for Bulk Marine Transport)

1: Product Identity

Product Name:

The product name shall be used in the shipping document for any cargo offered for bulk shipments. Any additional name may be included in brackets after the product name.

1.1: Other Names and Identification Numbers

Main Trade Name	:
Main Chemical Name	:
Chemical Formula	:
C.A.S Number	:
EHS Number	:
BMR Number	:
RTECS Number	:

Structure

1.2: Associated Synonyms

Synonym Name	Type

1.3: Composition

Component Name	%	Type

2: Physical Properties

Property	Units	Qual	Lower Value	Upper Value References and Comments
Molecular weight				
Density @ 20 ºC (kg/m^3)				
Flash Point (cc) (°C)				
Boiling Point (°C)				
Melting Point/Pour Point (°C)				
Water solubility @ (mg/l)				
Viscosity @ 20 ºC (mPa.s)				
Vap. Press. @ 20 (Pa)				
AutoIgnitionTemp (°C)				
Explosion Limits (% v/v)				
Carriage Temperature (ºC)				
Unloading Temperature (ºC)				
MESG (mm)				

3: Relevant Chemical Properties

Water Reactivity **(0 - 2)**

0=No Reactivity
1=Reactive
2=Highly

Details

Does the product react with air to cause a potentially hazardous situation (Y/N)

If so, provide details

Reference

Is an Inhibitor or Stabilizer needed to prevent a hazardous reaction? (Y/N)

If so, provide details

Reference

Is refrigeration needed to prevent a hazardous reaction? (Y/N)

If so, provide details

Reference

4: Mammalian Toxicity

4.1 Acute Toxicity	**Qual**	**Lower Val.**	**Upper Val.**	**Species**	**Reference/ Comments**
Oral LD50 (mg/kg)					
Dermal (mg/kg)					
Inhalation (mg/l/4h)					

4.2 Corrosivity and Irritation

Skin Corrosion time (hours)				

	Resultant observation	**Species**	***Reference/Comments***
Skin Irritation (4h exposure)			
Eye Irritation			

Not irritating, Slightly irritating, Mildly irritating, Moderately irritating, Severely irritating or Corrosive

4.3 Sensitization

Respiratory (in humans)	**Sensitizer**	**(Y/N)**			
Skin Sensitization		**(Y/N)**			

4.4 Other Specific Long-Term Effects

Carcinogen	**(Y/N)**		
Mutagen	**(Y/N)**		
Toxic to Reproduction	**(Y/N)**		
Other Long term	**(Y/N)**		

4.5 Other Relevant Mammalian Toxicity

5: GESAMP Hazard Profiles and Carriage Requirements

5.1: GESAMP Hazard Profiles

Column	Property	Value
A1	Bioaccumulation	
A2	Biodegradation	
B1	Acute Aquatic Toxicity	
B2	Chronic Aquatic Toxicity	
C1	Acute Oral Toxicity	
C2	Acute Dermal Toxicity	
C3	Acute Inhalation Toxicity	
D1	Skin Irritation/Corrosivity	
D2	Eye Irritation/Corrosivity	
D3	Specific Health Concerns	

E1	Tainting and Odour	
E2	Wildlife and Seabeds	
E3	Beaches and Amenities	
F	Remarks	

5.2: Proposed Carriage Requirements

Column in the IBC Code	Property	Value
c	Pollution Category	
d	Safety/Pollution Properties	
e	Ship Type	
f	Tank Type	
g	Tank Vents	
h	Tank Environmental Control	
I’	Electrical Equipment – Class	
I’’	Electrical Equipment – Group	
I’’’	Electrical Equipment – Flashpoint > 60ºC	
j	Gauging	
k	Vapour Detection	
l	Fire Protection	
n	Emergency Escape	
o	Special Requirements	

Appendix 5

GUIDELINES ON THE COMPLETION OF THE BLG PRODUCT DATA REPORTING FORM

1 General comments applicable to all sections of the BLG Product Data Reporting Form

1.1 Most properties have the following boxes associated with them:

.1 **Qual:** This is used to provide additional information about the reported value when required. The data used to complete this box must be selected from the following:

blank	No qualification is necessary or appropriate as it is deemed to mean ‘=’
>	Greater than
<	Less than
~	Approximately
E	Estimated (this can be used with any of the other qualifiers)
NF	Non-Flammable (used for flash point, autoignition temperature and explosion limits to show that the product is not hazardous).

.2 **Lower Value:** Where only one value exists, it should be put in this box. Where there is a range of values, the lower value should be put in this box, e.g. mixtures or impure products have a boiling range rather than a boiling point and so the initial boiling point is put in the **Lower Value** and the dry point is put in the **Upper Value**. For most purposes, the Lower Value will be used and is normally the only one that must be completed, though for **Explosion Limits**, both the **Lower Value** and the **Upper Value** are necessary.

.3 **Reference and Comments:** This should be completed so that the source of data can be traced. This may be a reference to company information, open literature or justification for an estimated value e.g. read across from a similar chemical.

2 Section 1: Product Identity

2.1 This section serves to provide as much identification of the product as possible. It is recognized that some of the boxes may not be relevant, such as the Chemical Abstract Services Number (C.A.S Number) that is normally only applicable to technically pure products or process streams. However, it is advisable to complete this section as much as possible as it facilitates the classification process and provides a mechanism for checking that the product has not been processed under a different name.

2.2 **EHS Number:** This is the reference number issued and used by the GESAMP/EHS Working Group to identify every chemical in its Composite List of products that it has evaluated.

2.3 **BMR Number:** This is the reference number issued and used by IMO to identify every chemical in the IBC Code and the Tripartite Agreements listed in MEPC.2/Circulars.

2.4 **Associated Synonyms:** These are product names, other than those identified in the boxes for **Main Trade Name**, **Main Chemical Name** and P**roduct Shipping Name**; they tend to be less common names and should be described in the **Type of Name** section by a qualifier.

2.5 Synonyms in the official languages of IMO should also be included where possible.

2.6 **Composition:** This section shall be used to include components of mixtures and impurities of any product; each entry in this section should include the percentage and Type (described as either C (Component) or I (Impurity)). In situations where this information is confidential, the data should be provided separately to the Reporting State.

3 Section 2: Physical Properties

3.1 It is important to recognize that, unless otherwise indicated, **ALL** the physical properties of the product referred to in this section have to be completed in order to enable the correct carriage requirements to be assigned.

3.2 Special attention should be given to paragraph 1.1 of these guidelines when completing this section on physical properties.

3.3 The additional specific notes are applicable to the physical properties section:

.1 If the product is not flammable then put 'NF' in the Qual box for flash point, autoignition temperature, explosion limits and maximum experimental safe gap (MESG).

.2 If the flash point is > 200°C and the autoignition temperature has not been measured, it may safely be estimated as > 200°C which is the cut-off point for defining a product as subject to chapter 17 of the IBC Code.

.3 For products which do not have a clear melting point, the pour point is regarded as being equivalent. In these cases the reference should include the term '(pour point)'.

4 Section 3: Relevant Chemical Properties

Water Reactivity Index

4.1 This parameter is an indication of the product's reactivity with water which will result in a hazard. As there are no quantitative definitions for this property, the following guidelines are provided with examples given that can be used for purposes of comparison:

WRI=2 Applies to any chemical which, in contact with water, may produce a toxic, flammable or corrosive gas or aerosol.

WRI=1 Applies to any chemical which, in contact with water, may generate heat producing a non-toxic, non-flammable or non corrosive gas.

WRI=0 Applies to any chemical which, in contact with water, would not undergo a reaction to justify a value of 1 or 2.

Appendix 6

EXAMPLE OF THE CALCULATION METHOD

Examples of determination of
Pollution Categories for mixtures

Working Method

Step 1

Determine for each component the applicable row in Table 1, by means of its hazard profile, taken from the GESAMP/EHS Composite list. This will determine the component factor.

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

A1	A2	B1	B2	D3	E2
4	NR	6			

This leads to *row a* in Table 1. The component factor is 100,000, the multiple is 1,100,000.

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	1		

This leads to *row q* in Table 1. The component factor is 1, 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
	R	3			

This leads to *row o* in Table 1. The component factor is 10, the multiple is 220.

Step 3

Sp = 1,100,287
Sp ≥ 25,000
The mixture is therefore Pollution Category X

Component number	**Applicable row in Table 1**	**Component Factor (Cp)**	**%**	**Multiple (Cp x %)**	**Resultant Pollution Category**
1	a	100,000	11	1,100,000	X
2	q	1	67	67	
3	o	10	22	220	
Sp				**1,100,287**	

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	

This leads to *row i* in Table 1. The component factor is 1,000, 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 leads to *row q* in Table 1. The component factor is 1, 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 leads to *row o* in Table 1. The component factor is 10, the multiple is 220.

Step 3

Sp = 11,287

Sp < 25,000 and Sp ≥ 25

The mixture is therefore category Y

Component number	Applicable row in Table 1	Component factor (Cp)	%	Multiple (Cp x %)	Resultant Pollution Category
1	i	1,000	11	11,000	Y
2	q	1	67	67	
3	o	10	22	220	
Sp				**11,287**	

Example 3

Steps 1 and 2

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

A1	A2	B1	B2	D3	E2
		3			

This leads 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/EHS Composite list is:

A1	A2	B1	B2	D3	E2
4	NR		1		

This leads 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/EHS Composite list is completely blank or zero:

A1	A2	B1	B2	D3	E2

This leads to *row u* in Table 1,
It is an OS component, the component factor is 0, the multiple is 0.

Step 3

Sp = 24
Sp < 25 and not all components are OS

The mixture is therefore category Z

Component number	Applicable row in Table 1	Component factor (Cp)	%	Multiple (Cp x %)	Resultant Pollution Category
1	o	10	2	20	Z
2	q	1	4	4	
3	u	0	94	0	
Sp				**24**	

Example 4

Steps 1 and 2

Component 1 is 20% of the mixture, its GESAMP Hazard profile, taken from the GESAMP/EHS 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/EHS Composite list is completely blank:

A1	A2	B1	B2	D3	E2

All components are OS, *row u* in Table 1 is applicable. The component factors and the multiples are 0.

Step 3

Sp = 0
The mixture consists of OS components only
The mixture is therefore OS

Component number	Applicable row in Table 1	Component factor (Cp)	%	Multiple (Cp x %)	Resultant Pollution Category
1	u	0	20	0	***OS***
2	u	0	80	0	
Sp				**0**	

Example 5

Steps 1 and 2

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

A1	A2	B1	B2	D3	E2
		4			

This leads to *row m* in Table 1. The component factor is 100, the multiple is 7,000.

The amount of component 2 is 29% of the mixture.
It is a diluent mineral oil so *no row* in Table 1 is applicable.
The component factor however is 100, the multiple is 2,900.

The amount of component 3 is 1% of the mixture.
It is an unassessed component, so *no row* in Table 1 is applicable.
The component factor however is 10,000. The multiple is therefore 10,000.

Step 3

Sp = 19,900

Component number	Applicable row in Table 1	Component factor (Cp)	%	Multiple (Cp x %)	Resultant Pollution Category
	m	100	70	7,000	Y
2	Component is diluent mineral oil	100	29	2,900	
3	Unassessed component	10,000	1	10,000	
Sp				**19,900**	

Sp < 25,000 and Sp ≥ 25
The mixture is therefore 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/EHS Composite list is:

A1	A2	B1	B2	D3	E2
5	NR			M	

This leads to *row d* in Table 1. The component factor is 25,000, the multiple is 50,000.

The amount of component 2 is 98% of the mixture, its GESAMP hazard profile, taken from the GESAMP/EHS Composite list is:

A1	A2	B1	B2	D3	E2
			≥1		

This leads to *row r* in Table 1. The component factor is 1, the multiple is 98.

Step 3

Sp = 50,098
Sp ≥ 25,000
The mixture is therefore category X

Component number	Applicable row in Table 1	Component factor (Cp)	%	Multiple (Cp x %)	Resultant Pollution Category
1	d	25,000	2	50,000	X
2	r	1	98	98	
Sp				**50,098**	

Examples of determination of Ship Types for mixtures

Working Method

Step 1

Identify Ship Type and the multiplication factor for each component using the IBC Code or the MEPC.2/Circular and table 2.

Step 2

Determine the concentration of each component and multiply the percentage by the factor found in step 1.

Step 3

Add multiples together and determine the resulting Ship Type, using the flowchart for determining Ship Types.

Step 3a

Apply the previously determined Pollution Category of the mixture if the added multiples are < 100.

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	Multiple is 11,000
Component 2 is 40 % of the mixture	Multiple is 400
Component 3 is 49% of the mixture	Multiple is 490

Step 3

Ss = 11890
Ss ≥ 10,000
The ST 1 multiples are 11,000
The ST 1 multiples are ≥ 10,000
Therefore the Ship Type is 1
(Step 3a is not applicable since Ss > 100)

Component number	**Ship Type**	**Factor (f)**	**%**	**Multiples (f x %)**	**Pollution Category of mixture**	**Resultant Ship Type**
1	1	1,000	11	11,000	Not applicable in this example	**1**
2	3	10	40	400		
3	3	10	49	490		
Ss				**11,890**		

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, the multiple is 500
Component 2 is 95% of the mixture, the multiple is 950

Step 3

Ss = 1450
10,000 > Ss ≥ 1,000
Sum of ST 1 & 2 multiples is < 1,000
Therefore the Ship Type is 3
(Step 3a is not applicable since Ss > 100)

<table>
<tr><th>Component number</th><th>Ship Type</th><th>Factor (f)</th><th>%</th><th>Multiples (f x %)</th><th>Pollution Category of mixture</th><th>Resultant Ship Type</th></tr>
<tr><td>1</td><td>2</td><td>100</td><td>5</td><td>500</td><td rowspan="4">Not applicable in this example</td><td rowspan="4">3</td></tr>
<tr><td>2</td><td>3</td><td>10</td><td>95</td><td>950</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Ss</td><td colspan="3"></td><td>1,450</td></tr>
</table>

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	Multiple is 0
Component 2 is 8% of the mixture	Multiple is 80
Component 3 is 82% of the mixture	Multiple is 820

Step 3

Ss = 900
1,000 >Ss ≥ 100
Therefore the Ship Type is 3
(Step 3a is not applicable since Ss > 100)

Component number	**Ship Type**	**Factor (f)**	**%**	**Multiples (f x %)**	**Pollution Category of mixture**	**Resultant Ship Type**
1	N/a	0	10	0	Not applicable in this example	**3**
2	3	10	8	80		
3	Diluent mineral oil	10	82	820		
Ss				**900**		

Example 4

Step 1

Component 1 is Ship Type 2, the multiplication factor is 100
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 — Multiple is 400
Component 2 is 95% of the mixture — Multiple is 950
Component 3 is 1% of the mixture — Multiple is 100

Step 3

Ss = 1,450
10,000 < Ss ≥ 1,000
Sum of ST 1 & 2 multiples is < 1,000
Therefore the Ship Type is 3
(Step 3a is not applicable since Ss > 100)

<table>
<tr><th>Component number</th><th>Ship Type</th><th>Factor (f)</th><th>%</th><th>Multiples (f x %)</th><th>Pollution Category of mixture</th><th>Resultant Ship Type</th></tr>
<tr><td>1</td><td>2</td><td>100</td><td>4</td><td>400</td><td rowspan="4">Not applicable in this example</td><td rowspan="4">3</td></tr>
<tr><td>2</td><td>3</td><td>10</td><td>95</td><td>950</td></tr>
<tr><td>3</td><td>Unassessed</td><td>100</td><td>1</td><td>100</td></tr>
<tr><td>Ss</td><td colspan="3"></td><td>1,450</td></tr>
</table>

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 Multiple is 0
Component 2 is 7% of the mixture Multiple is 70
Component 3 is 2% of the mixture Multiple is 20

Step 3

Ss = 90
Ss < 100

Step 3a

Pollution Category of mixture is Y, as determined previously
Therefore the Ship Type is 3

Component number	**Ship Type**	**Factor (f)**	**%**	**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**		

____