ANNEX 4

DRAFT MEPC CIRCULAR

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-third (18-22 July 2005)] session. The present circular supersedes MEPC/Circ.265.

2 The Guidelines were 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 of ascertaining the carriage requirements for all products offered for carriage in bulk.

4 Attention is drawn to the provisions of section 8 of the 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. Based on the data submitted, the product will be evaluated by GESAMP. 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.

ANNEX 1

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 The notion of "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 this Annex.

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 *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 of the Index of Products Carried in Bulk or in the latest edition of MEPC.2/Circ.

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/Circ.

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) forms part of the publication of the IBC Code and 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 agreed and proposed amendments to chapter 17 and 18 of the IBC Code. Such a list is issued yearly (17 December) as MEPC.2/Circ., List 1. 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/Circ., 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 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 (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/Circ., 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 shipping or producing country-Administration 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 amendment sheet 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 the amendment sheet 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 Hazard Profiles (MARPOL 73/78, Annex II, Appendix 1); and

.3 Relevant parts of chapter 21 of the IBC Code: "Criteria for assigning requirements from 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 (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 assimilation to chemically similar substances from the following sources:

.1 the IBC Code and Index;

.2 the MEPC.2/Circ. 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 assimilations 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 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 amendment sheet 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/Circ. without an expiry date.

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 10000 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*						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 = Σ (Each component %wt) x (Each component factor)

X Sp ≥ 25,000

Y Sp < 25,000 and Sp ≥ 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/Circ;

.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	1000
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 ≥ 10000	Is the sum of ST 1 multiples ≥ 10,000?	Yes → No →	1 2
10000 > Ss ≥1000	Is the sum of ST 1 & 2 multiples ≥1,000?	Yes → No →	2 3
1000 > 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 5.

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/Circ. 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/Circ. without an expiry date.

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 3 years.

6.7 IMO shall evaluate the shipping name, Ship Type and carriage requirements provisionally assigned by tripartite agreement based on information submitted by the Administration of the producing or shipping country and finally include the mixture in the MEPC.2/Circ. List 3 without an expiry date. There is no need for IMO to review the mixture's Pollution Category, as this is the result of a purely mechanical calculation.

Section 7: ASSESSMENT OF POLLUTANT ONLY 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/Circ.

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 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 amendment sheet to the ship's Certificate of Fitness. Such an amendment sheet is instead required for mixtures with safety hazards (see paragraph 3.6).

7.4 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/Circ, List 4.

7.5 The manufacturer wi1l forward to GESAMP 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.

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* 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 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.

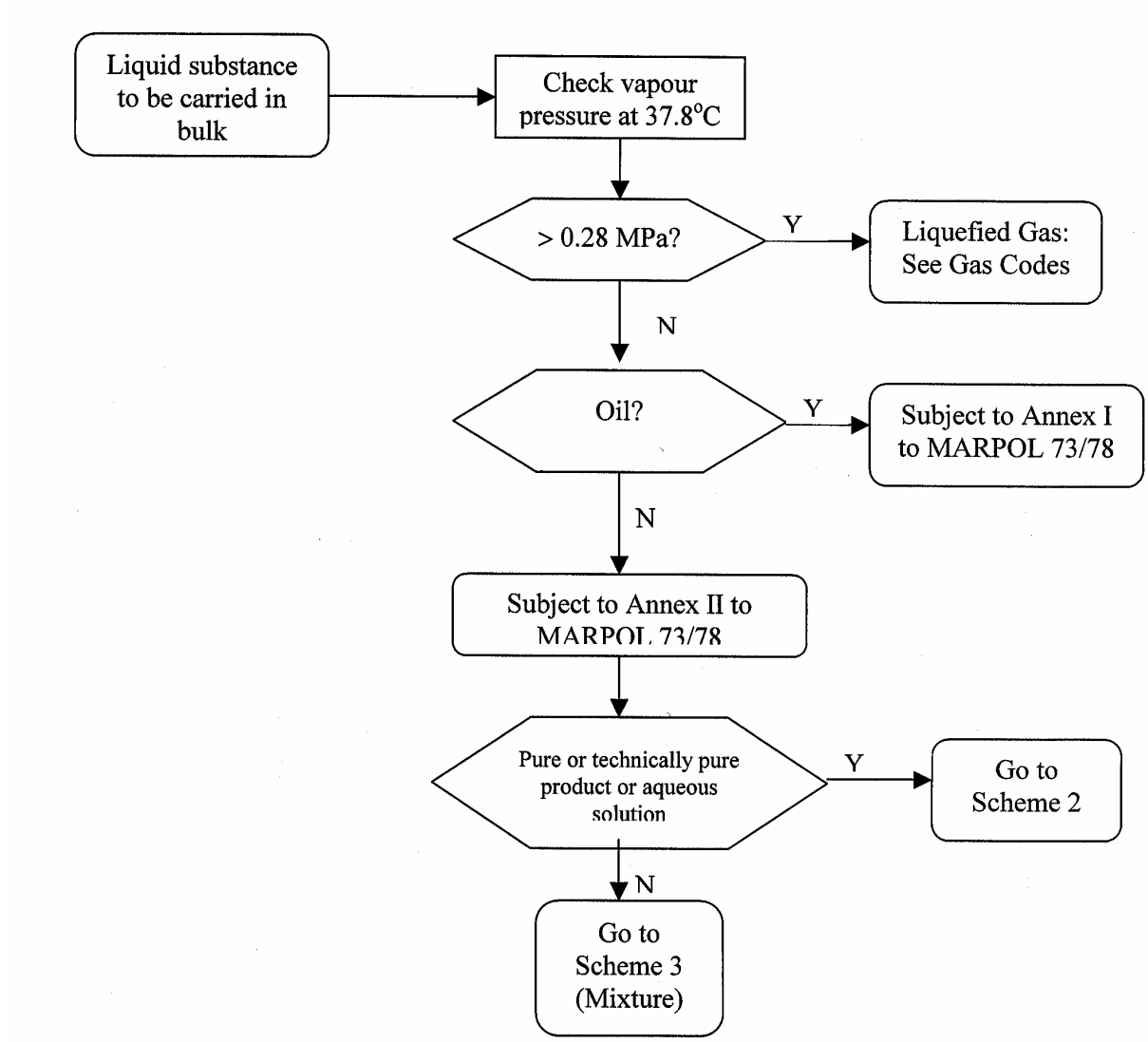
8.3 Unless such a substance, component or mixture will have been evaluated by the GESAMP and IMO in the meantime, its provisional assessment by tripartite agreement will cease to be valid 3 years after the date of publication in the MEPC.2/Circ. After expiration of a tripartite agreement, no new tripartite agreement for the same product, even under a different name, shall be established.

* The completed form should be sent to:

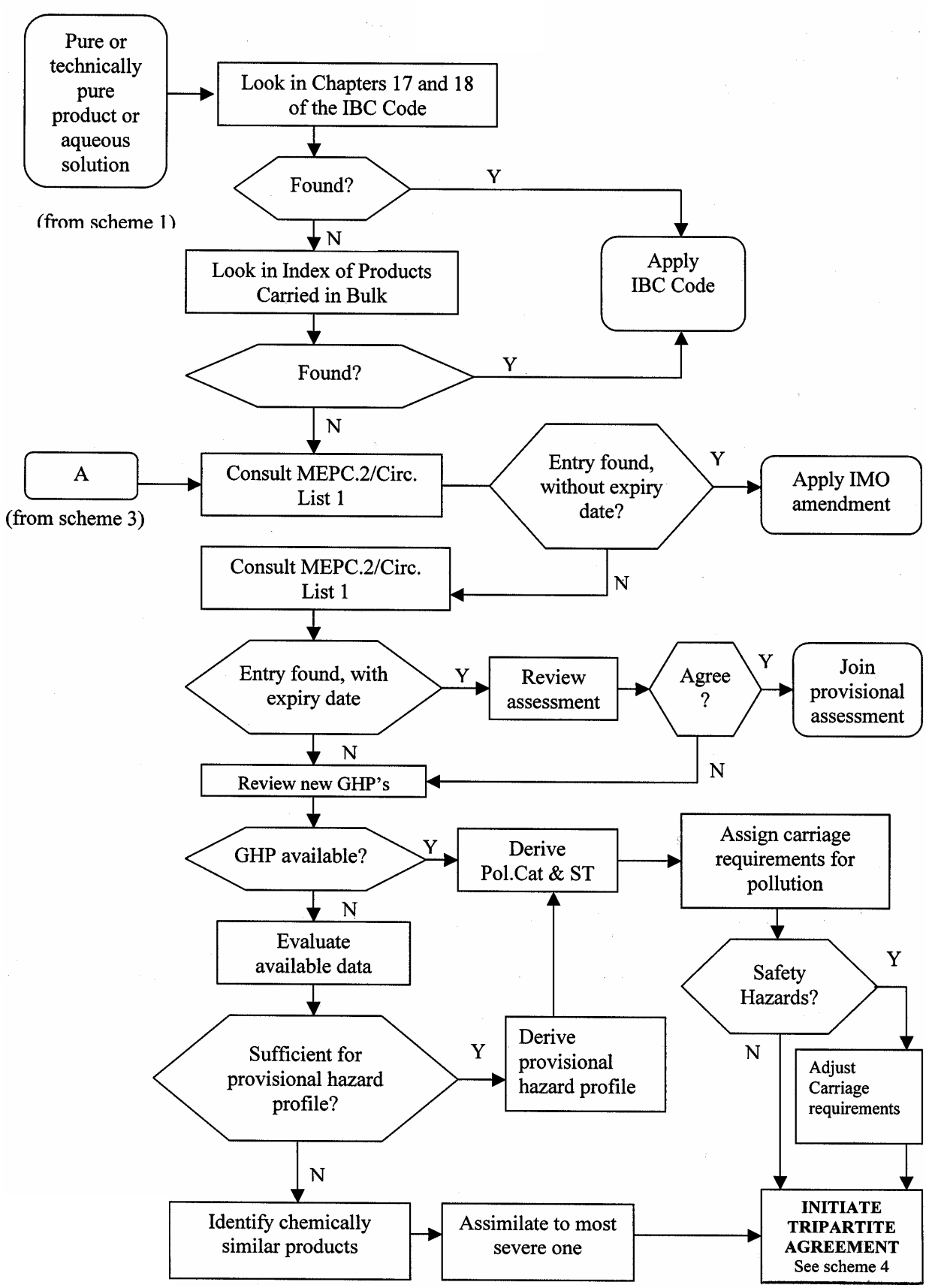
The Technical Secretary of GESAMP/EHS Working Group
International Maritime Organization (IMO)
4 Albert Embankment
London SEl 7SR
United Kingdom

Appendix 1

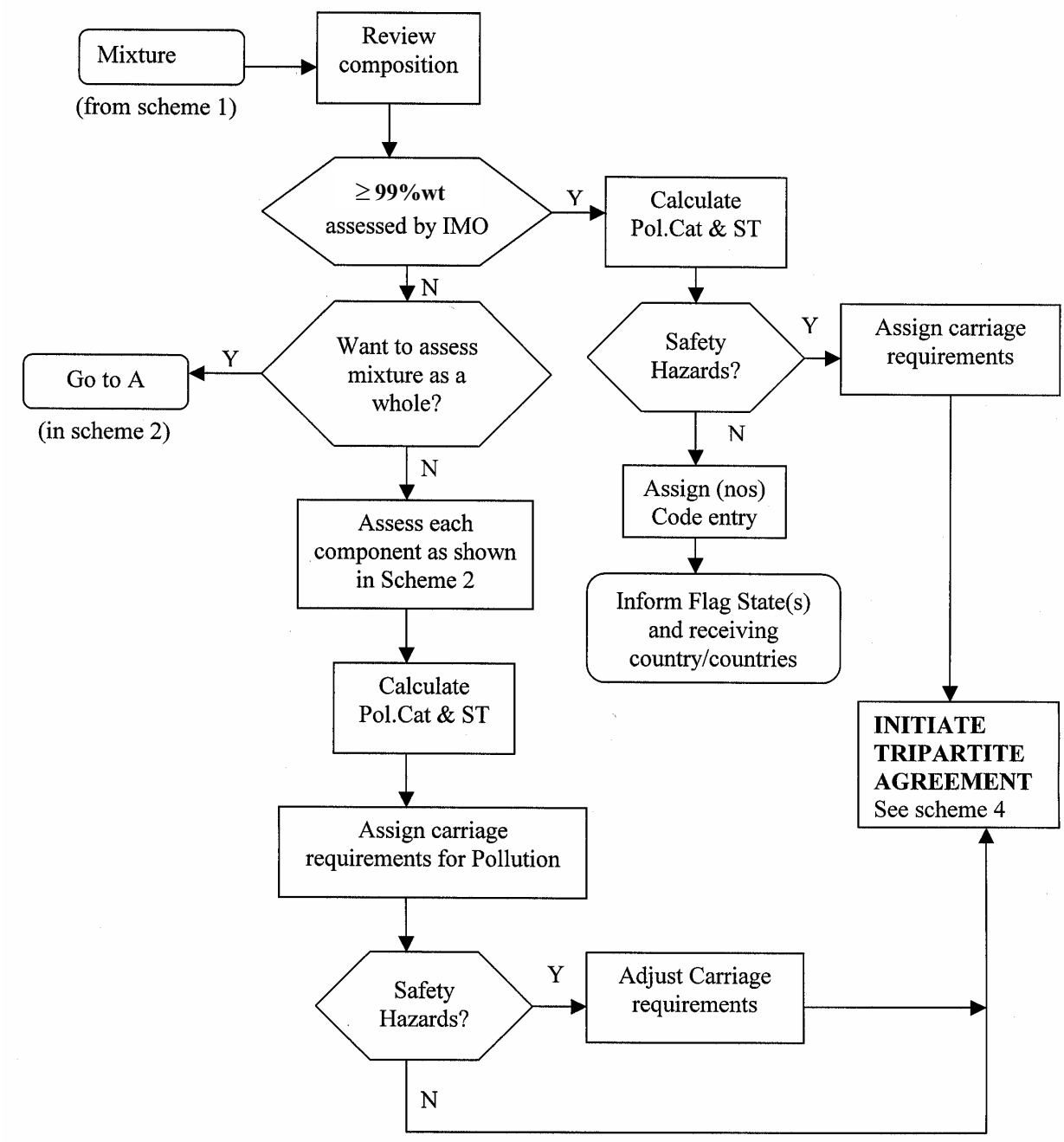
Scheme 1



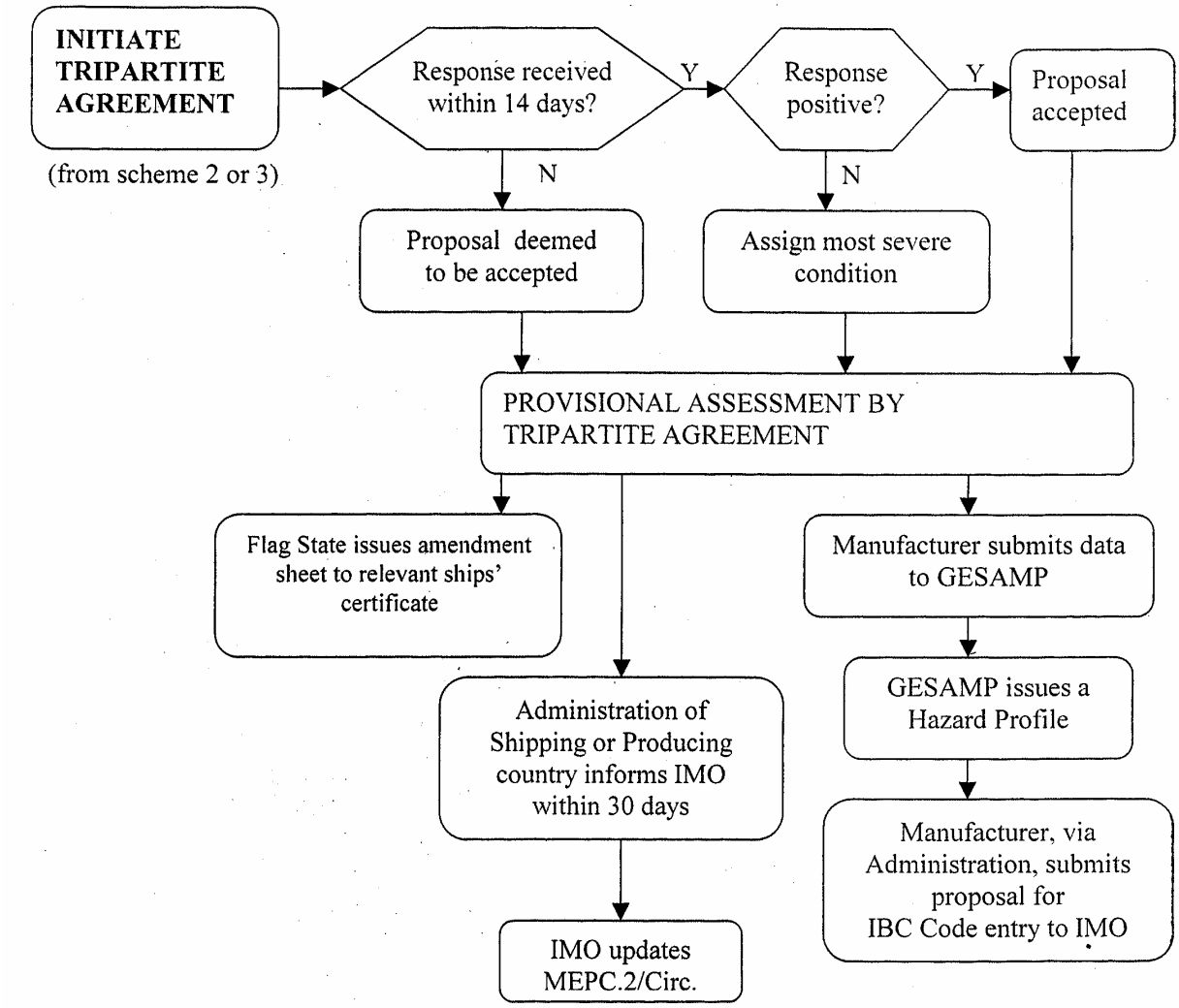
Scheme 2


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. List 1
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
Sufficient for provisional hazard profile?
Y
Derive provisional hazard profile
Adjust Carriage requirements
N
Identify chemically similar products
Assimilate 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)
N
Assess each component as shown in Scheme 2
Calculate Pol.Cat & ST
Assign carriage requirements for Pollution
Safety Hazards?
Y
Adjust Carriage requirements
N
Safety Hazards?
Y
Assign carriage requirements
N
Assign (nos) Code entry
Inform Flag State(s) and receiving country/countries
INITIATE TRIPARTITE AGREEMENT
See scheme 4

Scheme 4


INITIATE TRIPARTITE AGREEMENT
(from scheme 2 or 3)
Response received within 14 days?
Y
Response positive?
Y
Proposal accepted
N
N
Proposal deemed to be accepted
Assign most severe condition
PROVISIONAL ASSESSMENT BY TRIPARTITE AGREEMENT
Flag State issues amendment 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
(to be developed further)

EXAMPLE OF AN AMENDMENT SHEET TO THE SHIP'S CERTIFICATE OF FITNESS

Addendum to Certificate No.:		Issued:		
Issued in pursuance of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk under the authority of the Government of:				
Name of Ship	Distinctive Number or Letters	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 Annex II of MARPOL 73/78 are observed:

Substance	Category	Tanks/Tank groups fit for carriage	Melting point ºC	Viscosity at 20ºC mPa.s	Suitable for ventilation Yes/No

Note: Information need only be inserted in the fourth and fifth columns, relating to melting point and viscosity, for those substances which have a melting point equal to or greater than 0ºC or a viscosity greater than 50 mPa.s at 20ºC.

Footnotes:

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

The undersigned declares that he is duly authorized by the said Government to issue this document

Appendix 3
(to be developed further)

FORMAT FOR PROPOSING TRIPARTITE AGREEMENT FOR PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES

1 Name of Product

2 Proposed Hazard Profile

2.1 [ ] in composite list of hazard profiles (BLG/Circ.)

2.2 [ ] by analogy to:

2.3 [ ] by data (provide relevant data)

2.4 [ ] by calculation (mixture)

3 Proposed Pollution Category

4 Proposed Ship Type (pollution hazard)

5 Melting point

6 Viscosity at 20°C

Safety

7 vapour pressure at: °C

8 Boiling point: °C

9 Relevant toxicity[1]

10 Flashpoint °C open/closed cup

11 Chemical property[2]

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[1] This item should include the following data
- Inhalation toxicity acute LC50 (rat 1 hour)
- Dermal toxicity acute LD50 (rabbit)
- Oral toxicity acute LD50 (rat)
- Corrosivity to skin (4 hours)

[2] This item should include the following data:
- Solubility in water
- Corrosivity to steel, copper zinc, brass and other (depends on decision of MSC 78)
- contarol required to prevent hazardous reaction
- Autoignition temperature
- Flammable limits (volume % in air at 20°C and 1 atmosphere)

12 Minimum carriage requirements[3]

d. …….

e. (Ship Type given here may override 4 above)

f. …….

g. …….

h. …….

i. …….

j. …….

k. …….

l. …….

m. Deleted……..……

n. …….

o. …….

[3] Chapter 17 of the IBC Code

Appendix 4

BLG Product Data Reporting Form

(Characteristics of Products proposed for Bulk Marine Transport)

1: Product Identity

Product Name:

This is the only name that should appear on the shipping document and will be reflected in the IBC Code

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 º C	(kg/m3)					
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 (mg/kg)	**LD50**					
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 Sensitizer (in humans)	**(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	
l’	Electrical Equipment - Class	
l”	Electrical Equipment - Group	
l”’	Electrical Equipment – Flashpoint > 60ºC	
j	Gauging	
k	Vapour Detection	
l	Fire Protection	
n	Emergency Escape	
o	Special Requirements	

***

Appendix 5

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			

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 1000, the multiple is 11000.

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	1000	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
		5			

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 0:

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 l* in Table 1. The component factor is 100, the multiple is 7000.

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 2900.

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
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	l	100	70	7000	**Y**
2	Component is diluent mineral oil	100	29	2900	
3	Unassessed component	10,000	1	10,000	
Sp				**19,900**	

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

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/Circ. 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 1000
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 11000
Components 2 is 40 % of the mixture Multiple is 890

Step 3

Ss = 11890
Ss ≥ 10,000
The ST 1 multiples are 11000
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	1000	11	11000	Not applicable in this example	**1**
2	3	10	40	400		
3	3	10	49	490		
Ss				**11890**		

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 ≥ 1000
Sum of ST 1 & 2 multiples is < 1000
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	2	100	5	500	Not applicable in this example	**3**
2	3	10	95	950		
Ss				**1450**		

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
1000 >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 = 1450
10,000 < Ss ≥ 1000
Sum of ST 1 & 2 multiples is < 1000
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	2	100	4	400	Not applicable in this example	**3**
2	3	10	95	950		
3	Unassessed	100	1	100		
Ss				**1450**		

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**		

***