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Shipping Information Notice – 103

Amendments to MARPOL annex II: abbreviated legend to the revised GESAMP hazard evaluation procedure

To: Masters, Owners & Operators

1. Summary

- 1.1. This Shipping Information Note (SIN) provides information on an amendment to appendix 1 to Annex II of the International Convention for the Prevention of Pollution from Ships (MARPOL).
- 1.2. Appendix 1 reproduces a series of tables from the GESAMP Hazard Evaluation Procedure which set out criteria for the categorisation of noxious liquid substances which are carried in bulk by sea. Updates to the GESAMP hazard evaluation procedures have resulted in consequential amendments to information provided in appendix 1 of Annex II. This MIN details the amendments to the tables, which come into force internationally and in the UK on 1st November 2023.

2. Background

- 2.1. Gibraltar via virtue of extension by The United Kingdom, is a signatory to the International Convention for the Prevention of Pollution from Ships (MARPOL). MARPOL is divided into six technical annexes, each of which makes provision for the prevention and control of a specific type of ship-source pollution. Annex II makes provision for the prevention and control of pollution by noxious liquid substances (NLS) carried in bulk on ships. This is achieved primarily through mandatory requirements for ship construction, equipment, operational procedures and discharge controls for ships carrying NLS in bulk. Annex II is implemented in the Gibraltar by the Gibraltar Merchant Shipping (Prevention of Pollution from Ships) Regulations 2009 (as amended)
- 2.2. For the purposes of Annex II, noxious liquid substances are divided into four pollution categories. These are:

Category X	Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a major hazard to either marine resources or human health and, therefore, justify the prohibition of the discharge into the marine environment;
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Category Y	Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment;
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Category Z Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a minor hazard to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment;

Category OS substances indicated as OS (Other Substances) in the pollution category column of chapter 18 of the International Bulk Chemical Code which have been evaluated and found to fall outside Category X, Y or Z as defined in regulation 6.1 of Annex II because they are, at present, considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations. The discharge of bilge or ballast water or other residues or mixtures containing only substances referred to as Other Substances shall not be subject to any requirements of Annex II.

- 2.3. Guidance for use in the categorisation of NLS, in the form of categorisation tables, is given in appendix 1 to Annex II. This is supplemented by the International Maritime Organization (IMO) publication Guidelines for the Provisional Assessment of Liquid Substances Transported in Bulk (MEPC.1/Circ.512/Rev.1).
- 2.4. The categorisation tables set out in appendix 1 are reproduced from GESAMP's Hazard Evaluation Procedure for Chemicals Carried by Ships. GESAMP is the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, an advisory body that advises the United Nations (UN) on the scientific aspects of marine environmental protection, with the principal objective of providing scientific advice concerning the prevention, reduction and control of the degradation of the marine environment.
- 2.5. In 2019, GESAMP amended their Hazard Evaluation Procedure in order to reflect developments related to hazard categorisation. The purpose of the amendment is not to replace the existing hazard evaluation procedure, but to update it with as little disruption to the user as possible, only introducing changes where necessary, in particular to ensure harmonization with IMO regulations and the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
- 2.6. At the 75th session of the International Maritime Organization's (IMO) Marine Environment Protection Committee (MEPC) it was noted that the revised GESAMP Hazard Evaluation Procedure for Chemicals Carried by Ships, 2019 had been published and that this revision included a number of updates and refinements to the GESAMP Hazard Profile table. As the GESAMP Hazard Evaluation Procedure tables are reproduced in appendix I to MARPOL Annex II, in light of these refinements, the Committee requested the Secretariat to prepare the draft consequential amendments to appendix I of MARPOL Annex II and submit them to the 76th session of MEPC, with a view to approval and subsequent circulation for adoption.
- 2.7. The amendments to appendix 1 to MARPOL Annex II were adopted by IMO Resolution MEPC.344(78) and come into force on 1st November 2023.

3. Amendments to MARPOL Annex II

- 3.1. There are three amendments to the GESAMP hazard evaluation procedure tables. Where these GESAMP tables are replicated in appendix 1 to Annex II, amendments are made to appendix 1 to reflect the GESAMP amendments. These amendments are intended to have as little impact on users as possible whilst ensuring that the hazard evaluation process remains up to date and harmonised.
- 3.1.1. *The reassignment of column E1.* The rating of a chemical's potential to taint seafood has not been used for more than 20 years as tainting has been deleted as a regulatory criterion for classifying chemicals under MARPOL and, after 2000, no further evaluations related to tainting have been performed. Therefore, tainting has been deleted from the hazard profile. At the same time, emergency responders using the GESAMP Hazard Profile requested information on flammability for use in spill management. Therefore, in the revised GESAMP procedure, and consequently the amended appendix I, column E1, which previously related to tainting, has been reassigned to flammability rated according to a measured flashpoint.
- 3.1.2. *Sub-categorisation of column C3.* Chapter 21 of the IBC Code which defines the criteria for assigning minimum carriage requirements, requires consideration of occupational hazards in the GESAMP Hazard Profile. With this in mind, and based on requests from the IMO, column C3 of the GESAMP Hazard Profile table has been sub-divided to provide a more detailed evaluation of the acute inhalation hazard onboard in particular for pure vapour exposure. Column C3, which rates inhalation toxicity, has been subdivided into C3a and C3b which break down the rating into vapour/mist, mist only and vapour only in order to take account of occupational exposure to vapours from cargo tanks rather than only combined mist and vapour exposure after a spill on sea.
- 3.1.3. *Re-formatting of columns C and D.* The GESAMP hazard evaluation procedure tables presented columns A and B in one table, columns C and D in one table and Column E in one table. Following the sub-division of column C3, the procedure is now presented with columns A and B in one table and then columns C, D and E are each presented in individual tables to clearly present all sub-divisions. This amendment is for clarity of presentation.
- 3.2. Annex I of this SIN sets out the relevant tables in appendix I of Annex II as they appear prior to the 1st November 2023. Annex II of this MIN sets out the relevant tables in appendix 1 to Annex II as they appear on and after 1st November 2023. Pollution categories for noxious liquid substances set out in Annex II are unaffected.

4. Implementation in Gibraltar

- 4.1. The amendment to appendix 1 to Annex II was adopted by IMO Resolution MEPC.344(78). It comes into force internationally and in the UK on 1st November 2023.
- 4.2. The Gibraltar Merchant Shipping (Prevention of Pollution from Ships) Regulations 2009 give effect to the detailed provisions of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating to that Convention, including all its other Protocols, Annexes and Appendices, and amendments thereto adopted by the International Maritime Organisation in accordance with Article 16 of that Convention (the "MARPOL Convention"). Therefore, the amendments to appendix 1 to Annex II, as adopted by IMO Resolution MEPC.344(78), are automatically given effect.

4.3. The Regulations contain references to noxious liquid substances, which are defined as substances categorised in accordance with regulation 6 of MARPOL Annex II. Regulation 6 of Annex II contains a reference to the guidelines for use in the categorisation of noxious liquid substances, which are contained in appendix 1. The Regulations additionally prohibit the carriage of a liquid substance in bulk which has not been categorised.

5. Further sources of information

[MEPC.344\(78\)](#)

[GESAMP Hazard Evaluation Procedure for Chemicals carried by Ships, 2019](#)

[GUIDELINES FOR THE PROVISIONAL ASSESSMENT OF LIQUID SUBSTANCES](#)

[Gibraltar Merchant Shipping \(Prevention of Pollution from Ships\) Regulations 2009](#)

Steve Gomez – Chief Surveyor (Ag)

For and on behalf of the Maritime Administrator

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Annex 1

The tables in appendix 1 as they appear prior to 1 Nov 2023

Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure

Columns A & B Aquatic environment					
rating	A Bioaccumulation and biodegradation			B Aquatic toxicity	
	A 1 Bioaccumulation		A 2 Biodegradation	B 1 Acute toxicity LC/EC/IC50 (mg/l)	B 2 Chronic toxicity NOEC (mg/l)
	log Pow	BCF			
0	<1 or > ca.7	no measurable BCF	R : readily biodegradable NR : not readily biodegradable	>1000	>1
1	≥1 - <2	≥1 - <10		>100 - ≤1000	>0.1 - ≤1
2	≥2 - <3	≥10 - <100		>10 - ≤100	>0.01 - ≤0.1
3	≥3 - <4	≥100 - <500		>1 - ≤10	>0.001 - ≤0.01
4	≥4 - <5	≥500 - <4000		>0.1 - ≤1	≤0.001
5	≥5 - < ca.7	>4000		>0.01 - ≤0.1	
6			≤0.01		

*These columns are used to define pollution categories.

Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure (continued)

Columns C & D Human health (toxic effects to mammals)						
rating	C Acute mammalian toxicity			D Irritation, corrosion and long-term health effects		
	C1 Oral toxicity LD ₅₀ /ATE (mg/kg)	C2 Dermal toxicity LD ₅₀ /ATE (mg/kg)	C3 Inhalation toxicity LC ₅₀ /ATE (mg/l)	D1 Skin irritation & corrosion	D2 Eye irritation & corrosion	D3 Long-term health effects
0	>2000	>2000	>20	not irritating	not irritating	C - Carcinogenic M - Mutagenic R - Reprotoxic Ss - Sensitising to skin Sr - Sensitising to respiratory system A - Aspiration hazard T - Target Organ Toxicity N - Neurotoxic I - Immunotoxic
1	>300 - ≤2000	>1000 - ≤2000	>10 - ≤20	mildly irritating	mildly irritating	
2	>50 - ≤300	>200 - ≤1000	>2 - ≤10	irritating	irritating	
3	>5 - ≤50	>50 - ≤200	>0.5 - ≤2	severely irritating or corrosive 3A Corr. (≤4hr) 3B Corr. (≤1hr) 3C Corr. (≤3min)	severely irritating	
4	≤5	≤50	≤0.5			

*These columns are used to define pollution categories.

Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure (continued)

Column E		Interference with other uses of the sea	
E1	E2		E3
Tainting	Physical effects on wildlife & benthic habitats	Numerical rating	Interference with Coastal Amenities
NT: not tainting (tested)	Fp: Persistent Floater	0	no interference <i>no warning</i>
T: tainting test positive	F: Floater	1	slightly objectionable <i>warning, no closure of amenity</i>
	S: Sinking Substances	2	moderately objectionable <i>possible closure of amenity</i>
		3	highly objectionable <i>closure of amenity</i>

*These columns are used to define pollution categories.

Annex 2

The tables in appendix 1 as they appear after 1 Nov 2023 (the three tables under the title 'Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure' are replaced by the following four tables):

Numerical rating	A Bioaccumulation and Biodegradation		B Aquatic Toxicity	
	A1 Bioaccumulation		B1 Acute toxicity LC/EC/IC ₅₀ (mg/L)	B2 Chronic toxicity EC ₁₀ or NOEC (mg/L)
	A1a: log P _{ow}	A1b: BCF		
0	log <1, log > ca.7 MW > 1000	no measurable BCF	R: readily biodegradable	AT >1000 CT >1
1	1 ≤ log <2	1 ≤ BCF <10	NR: not readily biodegradable	100 < AT ≤ 1000
2	2 ≤ log <3	10 ≤ BCF <100		10 < AT ≤ 100
3	3 ≤ log <4	100 ≤ BCF <500		1 < AT ≤ 10
4	4 ≤ log <5	500 ≤ BCF <4000		0.1 < AT ≤ 1
5	5 ≤ log < ca.7	BCF ≥ 4000		0.01 < AT ≤ 0.1
6				AT ≤ 0.01

Numerical rating	C Acute Mammalian Toxicity				
	C1 Oral toxicity	C2 Dermal toxicity	C3 Inhalation toxicity		
	LD ₅₀ /ATE (mg/kg)	LD ₅₀ /ATE (mg/kg)	C3a		C3b
			vapour/mist LC ₅₀ /ATE (mg/L)	mist only LC ₅₀ /ATE (mg/L)	vapour only LC ₅₀ /ATE (mg/L)
0	ATE >2000	ATE >2000	ATE >20	ATE >5	ATE >20
1	300 < ATE ≤ 2000	1000 < ATE ≤ 2000	10 < ATE ≤ 20	1 < ATE ≤ 5	10 < ATE ≤ 20
2	50 < ATE ≤ 300	200 < ATE ≤ 1000	2 < ATE ≤ 10	0.5 < ATE ≤ 1	2 < ATE ≤ 10
3	5 < ATE ≤ 50	50 < ATE ≤ 200	0.5 < ATE ≤ 2	0.05 < ATE ≤ 0.5	0.5 < ATE ≤ 2
4	ATE ≤ 5	ATE ≤ 50	ATE ≤ 0.5	ATE ≤ 0.05	ATE ≤ 0.5

Numerical rating	D Irritation, Corrosion and Long-term Health Effects		
	D1 Skin irritation and corrosion	D2 Eye irritation and corrosion	D3 Long-term health effects
	0	not irritating	not irritating
1	mildly irritating	mildly irritating	
2	irritating	irritating	
3	severely irritating or corrosive	severely irritating	
	3A Corr. (≤4 h) 3B Corr. (≤1 h) 3C Corr. (≤3 min)		

Numerical Rating	E Interference with Other Uses of the Sea		
	E1 Flammability flashpoint (°C)	E2 Physical effects on wildlife and benthic habitats	E3 Interference with coastal amenities
	0	- (not flammable, does not burn)	Fp - Persistent floater F - Floater S - Sinker G - Gas E - Evaporator D - Dissolver and combinations thereof
1	Fp >93	slightly objectionable warning, no closure of amenity	
2	60 < Fp ≤ 93	moderately objectionable possible closure of amenity	
3	23 ≤ Fp ≤ 60	highly objectionable closure of amenity	
4	Fp < 23		