

**Circular 83 / 2014**

**To: Vessel Managers, Masters, Officers, Deputy Registrars, Surveyors and Other Interested Parties of Oil and Chemical Tankers.**

**Subject: Carriage requirements for blends of petroleum oil and biofuel cargoes – alcohol-resistant foams and oil discharge monitoring systems**

**Date: 04 March 2014**

**Summary**

The International Maritime Organization has amended its guidelines for the carriage of blends of petroleum oil and biofuels ([Circular MEPC.1/Circ.761/Rev.1](#)) (attached below) and has also amended its guidelines and specifications for oil discharge monitoring (ODM) and control systems for oil tankers ([Resolution MEPC.240\(65\)](#)), (attached below) as follows:

Alcohol-resistant foams for ethanol/gasoline blends

Circular MEPC.1/Circ.761/Rev.1 requires:

1. oil tankers intending to carry biofuel blended cargoes containing 75% or more of petroleum oil and more than 5% of ethyl alcohol to use alcohol-resistant foam or multi-purpose foam concentrates in their cargo deck fire-fighting systems
2. chemical tankers intending to carry biofuel blends of gasoline and ethyl alcohol cargoes containing more than 1% but less than 75% of petroleum oil to use alcohol-resistant foam or multi-purpose foam concentrates in their cargo deck fire-fighting systems.

Oil discharge monitoring (ODM) systems

Resolution MEPC.240(65) requires oil tankers that are carrying biofuel blended cargoes containing 75% or more of petroleum oil on or after the 1 January, 2016, and are fitted with an ODM system (Marpol Annex I, Regulation 31), to have the system approved and tested for the individual biofuel blend. This might require a modification to the (ODM) system fitted on board.

Owners and technical managers of oil and chemical tankers must be guided by the above fire-fighting requirements when carrying applicable ethanol/gasoline blended cargoes.

Owners and technical managers of oil tankers must consult the manufacturer of their ODM system in order to check whether the ODM meter is approved for the carriage of biofuel blend cargoes.

For further information or clarification please contact the Technical Manager at Maritime Cook Islands at [df@maritimecookislands.com](mailto:df@maritimecookislands.com); alternatively you may contact Maritime Cook Islands Head Office at +682 23848 Phone, +682 23846 Fax, [fleet@maritimecookislands.com](mailto:fleet@maritimecookislands.com)

Please ensure this has been forwarded to interested parties.

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MEPC.1/Circ.761/Rev.1  
1 February 2013

**2011 GUIDELINES FOR THE CARRIAGE OF BLENDS OF PETROLEUM OIL  
AND BIOFUELS, AS AMENDED**

1 The Marine Environment Protection Committee, at its sixty-second session (11 to 15 July 2011), recognizing the need to clarify how biofuels subject to MARPOL Annex II, when blended with petroleum oils, subject to Annex I of MARPOL, can be shipped in bulk, approved the 2011 Guidelines for the carriage of blends of petroleum oil and biofuels and agreed that these should become operative from 1 September 2011.

2 At its sixty-fourth session (1 to 5 October 2012), the Marine Environment Protection Committee approved amendments to the 2011 Guidelines, as set out in annex 3 of document BLG 16/16, relating to deck fire-fighting system requirements and the fire protection assignment (column I) given for the entry "Biofuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume)".

3 The 2011 Guidelines have accordingly been amended as set out in the annex.

4 Member Governments and international organizations are invited to bring the annexed Guidelines to the attention of Administrations, recognized organizations, port authorities, shipowners, ship operators and other parties concerned.

5 This circular revokes MEPC.1/Circ.761.

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## ANNEX

### 2011 GUIDELINES FOR THE CARRIAGE OF BLENDS OF PETROLEUM OIL AND BIOFUELS, AS AMENDED

#### 1 APPLICATION

1.1 These guidelines apply to ships when carrying in bulk blends of petroleum oil and biofuels subject to Annex I and Annex II of MARPOL, respectively.

#### 2 SCOPE

2.1 These Guidelines have been developed to clarify how biofuels subject to Annex II of MARPOL, when blended with petroleum oils, subject to Annex I of MARPOL, can be shipped in bulk.

#### 3 DEFINITIONS

For the purpose of these guidelines:

3.1 *Biofuels* are ethyl alcohol, fatty acid methyl esters (FAME), vegetable oils (triglycerides) and alkanes (C10-C26), linear and branched with a flashpoint of either 60°C or less or more than 60°C, as identified in chapters 17 and 18 of the IBC Code or the MEPC.2/Circular/tripartite agreements. Following the distribution of these guidelines, further biofuels identified as falling under the scope of the guidelines, will be recorded in annex 11 of the MEPC.2/Circular which deals with biofuel/petroleum oil blends.

3.2 *Biofuel blends* are mixtures resulting from the blending of those products identified in paragraph 3.1 above with a petroleum oil.

#### 4 CARRIAGE OF BIOFUEL BLENDS

The carriage provision for biofuel blends is based on the volumetric composition of the blends as follows:

##### 4.1 Biofuel blends containing 75 per cent or more of petroleum oil

4.1.1 When containing 75 per cent or more of petroleum oil, the biofuel blend is subject to Annex I of MARPOL.

4.1.2 When carrying such biofuel blends, Oil Discharge Monitoring Equipment (ODME – see resolution MEPC.108(49)) shall be in compliance with regulation 31 of Annex I of MARPOL and should be approved for the mixture being transported.

4.1.3 Until 1 January 2016 biofuel blends may be carried when the ship's ODME is not in compliance with paragraph 4.1.2 above provided that tank residues and all tank washings are pumped ashore.

4.1.4 When considering the deck fire-fighting system requirements of SOLAS chapter II-2, regulations 1.6.1 and 1.6.2, when carrying biofuel blends containing more than 5 per cent of ethyl alcohol then alcohol resistant foams should be used.

## 4.2 Biofuel blends containing more than 1 per cent but less than 75% of petroleum oil

4.2.1 When containing more than 1 per cent but less than 75% of petroleum oil, the biofuel blends are subject to Annex II of MARPOL and should be carried under the following conditions:

a	c	d	e	f	g	h	i'	i''	i'''	j	k	l	n	o
Biofuel blends of Diesel/gas oil and FAME (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	No	15.12, 15.17, 15.19.6
Biofuel blends of Diesel/gas oil and Vegetable oil (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	No	15.12, 15.17, 15.19.6
Biofuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	T3	IIA	No	C	F-T	A	No	15.12, 15.17, 15.19.6
Biofuel blends of Diesel/gas oil and Alkanes (C10-C26), linear and branched with a flashpoint > 60°C (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	-	-	Yes	C	T	ABC	No	15.12, 15.17, 15.19.6
Biofuel blends of Diesel/gas oil and Alkanes (C10-C26), linear and branched with a flashpoint ≤ 60°C (>25% but <99% by volume)	X	S/P	2	2G	Cont	No	T3	IIA	No	C	F-T	ABC	No	15.12, 15.17, 15.19.6

4.2.2 With respect to new biofuels identified as falling under the scope of these guidelines, carriage requirements for specific biofuel/petroleum oil blends to be shipped as MARPOL Annex II cargoes will be incorporated into List 1 of the MEPC.2/Circular, as appropriate.

## 4.3 Biofuel blends containing 1 per cent or less petroleum oil

4.3.1 When containing 1 per cent or less of petroleum oil, the biofuel blends are subject to Annex II of MARPOL.

## 5 BLENDING OF PETROLEUM OIL AND BIOFUEL ON BOARD

5.1 Blending on board describes the mixing of two products resulting in one single product (a blended mixture) and reflects only physical mixing as distinct from any chemical processing. Such mixing operations should only be undertaken whilst the ship is within port limits.

5.2 The physical blending on board of petroleum oil and biofuels during a sea voyage to create new products is prohibited as indicated in MSC-MEPC.2/Circ.8 – Prohibition of blending MARPOL cargoes on board during the sea voyage.

## 6 CERTIFICATION REQUIREMENTS

6.1 The certification for the biofuel blend to be shipped should be in compliance with Annex I or Annex II of MARPOL, as appropriate.

**ANNEX 30**

**RESOLUTION MEPC.240(65)**

**Adopted on 17 May 2013**

**2013 AMENDMENTS TO THE REVISED GUIDELINES AND SPECIFICATIONS  
FOR OIL DISCHARGE MONITORING AND CONTROL SYSTEMS FOR  
OIL TANKERS (RESOLUTION MEPC.108(49))**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING resolution MEPC.108(49) by which the Committee adopted the Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers,

NOTING ALSO that the revised MARPOL Annex I was adopted by resolution MEPC.117(52) and entered into force on 1 January 2007,

HAVING CONSIDERED, at its sixty-fifth session, proposed amendments to the Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers, prepared by the Sub-Committee on Bulk Liquids and Gases at its seventeenth session,

1. ADOPTS the 2013 Amendments to the Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers, the text of which is set out in the annex to this resolution;
2. RECOMMENDS Governments to apply the annexed amendments when approving oil discharge monitoring and control systems being installed under regulation 31 of MARPOL Annex I on oil tankers constructed on or after 1 January 2005.

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ANNEX

**2013 AMENDMENTS TO THE REVISED GUIDELINES AND SPECIFICATIONS FOR OIL DISCHARGE MONITORING AND CONTROL SYSTEMS FOR OIL TANKERS**

**REVISED GUIDELINES AND SPECIFICATIONS FOR OIL DISCHARGE MONITORING AND CONTROL SYSTEMS FOR OIL TANKERS**

- 1 In the Table of Contents, a new entry 3.7 is added, as follows:  
  
"3.7 Bio-fuels"
- 2 In paragraphs 1.1.1 and 1.1.2.1, the references "regulation 15(3)(a) of Annex I of MARPOL" are replaced by the references "regulation 31 of MARPOL Annex I."
- 3 Paragraph 1.1.3 is replaced by the following:  
  
"1.1.3 These Guidelines and Specifications also apply to oil content monitoring systems used for monitoring each individual bio-fuel blend containing 75 per cent or more of petroleum oil, carried in accordance with paragraph 4.1 of MEPC.1/Circ.761. Wherever in these Guidelines and Specifications reference is made to oil being monitored, this applies likewise to bio-fuel blends."
- 4 In paragraph 2.1, the references "Annex I of MARPOL" and "regulation 15(3)(a)" are replaced by the references "MARPOL Annex I" and "regulation 31", respectively.
- 5 In paragraph 2.2, the references "regulation 15" and "regulation 9(1)(a)" are replaced by the references "regulation 31" and "regulation 34.1", respectively.
- 6 In section 3, a new definition is added, as follows:  
  
"3.7 Bio-fuels  
  
Bio-fuels are products as recorded in annex 11 of the MEPC.2/Circular which are intended for blending with petroleum oil and may be shipped as blends in accordance with MEPC.1/Circ.761, as amended."
- 7 A new paragraph 5.7 is added, as follows:  
  
"5.7 Manufacturer recommended spares for the ODME should be carried to ensure the operation of the equipment."
- 8 The existing paragraph 5.7 is renumbered as paragraph 5.8.
- 9 In paragraph 6.1.1, the reference "regulation 18" is replaced by the reference "regulation 30".
- 10 The footnote associated with paragraph 6.1.6 is replaced by the following:  
  
"\* As specified in IEC publication 92 or an equivalent standard acceptable to the administration."
- 11 In paragraph 6.8.2, the references "regulation 9(1)(a)(iv) and (v)" are replaced by the references "regulation 31.1.4 and 31.1.5".

- 12 The chapeau of paragraph 6.11.1 and subparagraph .1 is replaced by the following:
- "6.11.1 The alternative means of obtaining information in the event of a failure in the monitoring system should follow the requirements in MARPOL Annex I, regulation 31.4 and the operational manual as approved by the Administrations and should be as follows:
- .1 oil content meter or sampling system: location and measurement of the oil/water interface using the equipment as required in regulation 32, visual observation of the surface of the water adjacent to the effluent discharge and recording the relevant data for the discharge accurately in the Oil Record Book Part II in sections H and I;"
- 13 In the footnote associated with subparagraph 6.12.2, the reference "regulation 9(1)(a)(5)" is replaced by the reference "regulation 34.1.5".
- 14 In paragraph 7.2.2, after the words "white products", insert the words ", individual biofuel blends".
- 15 In subparagraph 8.3.3, the references "regulations 9(1)(a)(iv) and (v)" are replaced by the references "regulations 34.1.4 and 34.1.5".

#### **ANNEX, PART 1 – TEST AND PERFORMANCE SPECIFICATIONS FOR TYPE APPROVAL OF OIL CONTENT METERS**

- 16 In the table under paragraph 1.2.6, under the column "Parameters Tolerance" and row "6", the text "RMG 35 Parameters as per ISO 8217:1996 (table 2)" is replaced by the following text:
- "RMG 35 Parameters as per ISO 8217:2010/Corr 1:2011 (tables 1 and 2)"
- 17 In paragraph 1.2.7, the reference standard "ISO 8217:1996 (table 1)" is replaced by the referenced standard "ISO 8217:2010/Corr 1:2011 (tables 1 and 2)".
- 18 New paragraph 1.2.8 is added, as follows:
- "1.2.8 If the meter is to be considered suitable for an individual biofuel blend containing 75 per cent or more of petroleum oil, it should also be tested against each such substance for which approval is required, in a manner similar to the tests set out in paragraphs 1.2.5 and 1.2.6. The high shear pump shown in figure 1 should be kept in operation at high speed during this test to assist in dissolving the appropriate fraction of the substance in the water stream."
- 19 New paragraph 1.2.9 is added, as follows:
- "1.2.9 Individual Biofuel blends should be tested at 75 per cent and 99 per cent petroleum oil."
- 20 The existing paragraphs 1.2.8 to 1.2.19 are renumbered as paragraphs 1.2.10 to 1.2.21.



**APPENDIX, CERTIFICATE OF TYPE APPROVAL FOR OIL CONTENT METERS INTENDED FOR MONITORING THE DISCHARGE OF OIL-CONTAMINATED WATER FROM THE CARGO TANK AREAS OF OIL TANKERS**

21 Under the "The oil content meter is acceptable for the following applications:", the text "Oil-like noxious liquid substances, other products, or applications, listed below" is replaced by the following:

\* Individual biofuel blends containing 75 per cent or more of petroleum oil, other products, or applications, listed below"

**APPENDIX, TEST DATA AND RESULTS OF TESTS CONDUCTED ON AN OIL CONTENT METER IN ACCORDANCE WITH PART 1 OF THE ANNEX TO THE GUIDELINES AND SPECIFICATIONS CONTAINED IN IMO RESOLUTION MEPC.108(49)**

22 The table for "OIL LIKE noxious liquid substances, other products or applications" is deleted, and tables for "INDIVIDUAL BIOFUEL BLENDS AND CONCENTRATIONS" and "OTHER PRODUCTS OR APPLICATIONS" are added, as follows:

**INDIVIDUAL BIOFUEL BLENDS AND CONCENTRATIONS\***

	READINGS (ppm)			REMARKS
	Indicated	Measured	Grab sample	
<b>Bio-Fuel Blend</b> <b>75% Petroleum Oil</b> Name of Bio-fuel and petroleum oil components ..... % ..... % ..... 15 100 90% M.F.S.V. = RECORDED ZERO	..... ..... ..... ..... .....	..... ..... ..... ..... .....	..... ..... ..... ..... .....	RE-ZERO TIME RECALIBRATE TIME CLEAN TIME YES/NO** mins YES/NO** mins YES/NO** mins
<b>Bio-Fuel Blend</b> <b>99% Petroleum Oil</b> Name of Bio-fuel and petroleum oil components ..... % ..... % ..... 15 100 90% M.F.S.V. = RECORDED ZERO	..... ..... ..... ..... .....	..... ..... ..... ..... .....	..... ..... ..... ..... .....	RE-ZERO TIME RECALIBRATE TIME CLEAN TIME YES/NO** mins YES/NO** mins YES/NO** mins

**RESPONSE TIMES**

	Seconds
First detectable reading	.....
	63 ppm .....1
	90 ppm .....1
Stabilized maximum reading or 100 ppm	.....
First detectable drop	.....
	37 ppm .....2
	10 ppm .....2
Stabilized minimum reading	.....
RESPONSE TIME = $\frac{1+2}{2}$	= .....

\* This page should be included in the certificate only if the oil content meter has been tested against bio-fuel blends.  
 \*\* Delete as appropriate.

**OTHER PRODUCTS OR APPLICATIONS\***

		READINGS (ppm)			<b>REMARKS</b>
		Indicated	Measured	Grab sample	
<b>Name of product</b> .....	15	.....	.....	.....	
	100	.....	.....	.....	
	90% M.F.S.V. =	.....	.....	.....	
	RECORDED ZERO	.....	.....	.....	
		.....	.....	.....	
					RE-ZERO YES/NO** TIME Mins RECALIBRATE YES/NO** TIME Mins CLEAN YES/NO** TIME Mins
<b>Name of product</b> .....	15	.....	.....	.....	
	100	.....	.....	.....	
	90% M.F.S.V. =	.....	.....	.....	
	RECORDED ZERO	.....	.....	.....	
		.....	.....	.....	
					RE-ZERO YES/NO** TIME Mins RECALIBRATE YES/NO** TIME Mins CLEAN YES/NO** TIME Mins

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\* This page should be included in the certificate only if the oil content meter has been tested against other products and applications substances.  
\*\* Delete as appropriate.