

Ref. T3/2.04

**AMENDMENTS TO THE RECOMMENDATIONS ON  
THE SAFE USE OF PESTICIDES IN SHIPS**

1 The Maritime Safety Committee, at its sixty-sixth session (28 May to 6 June 1996), approved amendments to the Recommendations on the safe use of pesticides in ships (MSC/Circ.612, as amended by MSC/Circ.689), proposed by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers at its first session. The amendments are set out in the annex to the present circular.

2 Member Governments are invited to bring the amendments to the attention of competent authorities, mariners, fumigators, fumigant and pesticide manufacturers and others concerned.

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## ANNEX

**AMENDMENTS TO THE RECOMMENDATIONS ON  
THE SAFE USE OF PESTICIDES IN SHIPS**

- 1 Insert the following "Recommendations" under the Foreword:

**RECOMMENDATIONS**

"The recommendations on the safe use of pesticides in ships are recommended to governments in pursuance of their obligations under chapter vi of the 1974 solas convention as amended."

- 2 In paragraph 3.1.3.4, insert the following sentence after the first sentence:

"He should be able to provide documentation to the master proving his competence and authorization."

- 3 In paragraph 3.4.3.1, insert the following sentence after the first sentence:

"This should be clearly understood by owners, charterers, and all other parties involved when considering the transport of cargoes that may be infested. Due consideration should be taken of this when assessing the options for fumigation."

- 4 Replace paragraph 3.4.3.9 by:

"3.4.3.9 If cargo spaces containing cargo are to be fumigated in-transit:

- .1 "After application of the fumigant, an initial check should be made by the Fumigator-in-charge together with trained representatives of the master for any leak which, if detected, should be effectively sealed. When the master is satisfied that all precautions detailed in 3.4.3.1 to 3.4.3.12 have been fulfilled (refer to model checklist annex 5) then the vessel may sail. Otherwise, provisions outlined in 3.4.3.9.2 or 3.4.3.9.3 are to be followed."

IF THE PROVISIONS OF 3.4.3.9.1 ARE NOT SATISFIED, EITHER:

- ".2 After application of fumigants, the ship should be delayed in port alongside at a suitable berth or at anchorage for such a period as to allow the gas in the fumigated cargo spaces to reach sufficiently high concentrations to detect any possible leakage. Special attention should be paid to those cases where fumigants have been applied which may require a long period (normally from 4 - 7 days unless a re-circulation or similar distribution system is used) to reach such a high concentration that leakage can be detected. If leakages are detected, the ship should not sail until the source(s) of such leakages are determined and eliminated. After ascertaining that the ship is in a safe condition to sail, i.e. no gas leakages are present, the Fumigator-in-charge should furnish the master with a written statement that:
- .2.1 the gas in the cargo space(s) has reached sufficiently high concentrations to detect any possible leakages;
- .2.2 spaces adjacent to the treated cargo space(s) have been checked and found gas-free;  
and

- .2.3 the ship's representative is fully conversant with the use of the gas detection equipment provided.

OR:

- .3 After application of the fumigants and immediate sailing of the ship, the Fumigator-in-charge should remain on board for such a period as to allow the gas in the fumigated cargo space or spaces to reach sufficiently high concentrations to detect any possible leakage, or until the fumigated cargo is discharged (see 3.4.3.20), whichever is the shorter, to check and rectify any gas leakages. Prior to his leaving the ship, he should ascertain that the ship is in a safe condition, i.e. no gas leakages are present, and shall furnish the master with a written statement to the effect that the provisions of 3.4.3.9.2.1, 3.4.3.9.2.2 and 3.4.3.9.2.3 have been carried out."

- 5 Replace paragraph 3.4.3.17 by:

"3.4.3.17 On arrival at the port of discharge the requirements of receiving countries regarding handling of fumigated cargoes should be established. Before entry of fumigated cargo spaces, trained personnel from a fumigation company or other authorised persons, wearing respiratory protection should carry out careful monitoring of the spaces to ensure the safety of personnel. The monitored values should be recorded in the ship's log book. In case of need or emergency the master may commence ventilation of the fumigated cargo spaces under the conditions of 3.4.3.15 having due regard for the safety of personnel on board. If this operation is to be done at sea, the master should evaluate weather and sea conditions before proceeding."

- 6 Replace paragraph 3.5.1.1 by:

"3.5.1.1 If it is intended that freight containers, barges or cargo transport units containing cargo under fumigation should be taken on board ship without preliminary ventilation, their shipment must be considered as a Class 9 Hazard under the IMDG Code and as such the procedures should conform to the requirements as specified in the schedule for CARGO TRANSPORT UNIT UNDER FUMIGATION of the Code (see annex 4). The following special precautions, incorporating the IMDG requirements, are necessary:"

- 7 In annex 3, add under the heading the words: "The markings should be black print on a white background with lettering not less than 25 mm high."

- 8 Add the following new annexes 4 and 5 after annex 3:

"Annex 4 - IMDG Code Class 9 Schedule for Cargo Transport Unit under Fumigation.

Annex 5 - Model checklist for In-Transit Fumigation"

"ANNEX 4

**IMDG CODE CLASS 9 SCHEDULE FOR CARGO TRANSPORT UNIT UNDER FUMIGATION**

	UN No.	Formula
CARGO TRANSPORT UNIT UNDER FUMIGATION		
CONTAINER UNDER FUMIGATION		<p><b>Properties</b></p> <p>A closed cargo transport unit loaded with cargoes under fumigation. The fumigant gases are either poisonous or asphyxiant. The gases are evolved from solid or liquid preparations distributed within the closed cargo transport unit.</p>
Fumigation Warning sign		<p><b>Observations</b></p> <p>Reference is made to the IMO/ILO <i>Guidelines for Packing Cargo in Freight Containers or Vehicles</i> and the <i>Recommendations on the Safe Use of Pesticides in Ships</i>. Only a cargo transport unit that can be closed in such a way that the escape of gas is reduced to a minimum should be used for the carriage of fumigated cargo. A closed cargo transport unit containing cargo under fumigation should not be allowed on board until sufficient time has elapsed to allow the attainment of a reasonably uniform gas concentration throughout the cargo. Because of variations due to types and amounts of fumigants and commodities and temperature levels, the period which should elapse between fumigant application and loading should be determined by the competent authority.</p> <p>Twenty-four hours is normally adequate for this purpose. The master should be informed prior to loading of a cargo transport unit under fumigation. These should be identified with a warning sign affixed to the access door(s) incorporating the identity of the fumigant and the date and time of fumigation.</p> <p>The transport documents for a closed cargo transport unit should show the date of fumigation and the type and amount of fumigant used.</p> <p>Equipment for detecting the fumigant gas or gases should be carried on the ship, with the instruction for its use.</p> <p>The provisions of this Code should not apply to a closed cargo transport unit which has been ventilated after fumigation to ensure that no harmful concentrations of gas remain. Such a unit should also have the warning sign(s) removed.</p> <p>Fumigants should not be applied to the contents of a cargo transport unit once it has been loaded aboard a ship.</p>
NO CLASS 9 LABEL REQUIRED		
		<p><b>Stowage</b></p> <p>Category B. Clear of living quarters</p>
		<p><b>Packing, Stowage &amp; Segregation</b></p> <p>See also General Introduction and introduction to this class.</p>

IMDG CODE – PAGE 9025-1 (page 9026 follows)  
Amdt. 27-94

ANNEX 5

**MODEL CHECKLIST FOR IN-TRANSIT FUMIGATION  
WITH PHOSPHINE**

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Date: .....

Port: ..... Terminal/Quay: .....

Ship's name: .....

Type of fumigant: ..... Method of Application: .....

Date & Time Fumigation Commenced:.....

Name of Fumigator/Company: .....

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The Master and Fumigator-in-charge, or their representatives, should complete the checklist jointly. The purpose of this checklist is to ensure that the responsibilities and requirements of 3.4.3.11, and 3.4.3.12 are carried out fully for in-transit fumigation under Section 3.4.3.9.

Safety of operations requires that all questions should be answered affirmatively by ticking the appropriate boxes. If this is not possible, the reason should be given and agreement reached upon precautions to be taken between ship and Fumigator-in-charge. If a question is considered to be not applicable write "n/a", explaining why if appropriate.

**PART A: BEFORE FUMIGATION**

		SHIP	FUMIGATOR IN-CHARGE
1	The inspection required before loading has been performed (3.4.3.4)	<input type="checkbox"/>	<input type="checkbox"/>
2	All the cargo spaces to be fumigated are satisfactory for fumigation	<input type="checkbox"/>	<input type="checkbox"/>
3	Spaces, where found not to be satisfactory, have been sealed	<input type="checkbox"/>	<input type="checkbox"/>
4	The Master or his trained representatives have been made aware of the specific areas to be checked for gas concentrations throughout the fumigation period	<input type="checkbox"/>	<input type="checkbox"/>
5	The Master or his trained representatives have been made familiar with the fumigant label, detection methods, safety procedures and emergency procedures (refer to 3.4.3.6)	<input type="checkbox"/>	<input type="checkbox"/>
6	The Fumigator-in-charge has ensured that gas detection and respiratory protection equipment carried on the ship is in good order, and that adequate fresh supplies of consumable items for this equipment are available to allow sampling as required by 3.4.3.13	<input type="checkbox"/>	<input type="checkbox"/>
7	The Master has been notified in writing of:		
	a) the spaces containing cargo to be fumigated	<input type="checkbox"/>	<input type="checkbox"/>
	b) any other spaces that are considered unsafe to enter during the fumigation	<input type="checkbox"/>	<input type="checkbox"/>

**PART B: AFTER FUMIGATION**

**The following procedure should be carried out after application of fumigant and closing and sealing of cargo spaces.**

		SHIP	FUMIGATOR IN-CHARGE
8	Presence of gas has been confirmed inside each hold under fumigation	<input type="checkbox"/>	<input type="checkbox"/>
9	Each hold has been checked for leakage and sealed properly	<input type="checkbox"/>	<input type="checkbox"/>
10	Spaces adjacent to the treated cargo spaces have been checked and found gas free	<input type="checkbox"/>	<input type="checkbox"/>
11	The responsible crew members have been shown how to take gas readings properly when gas is present and they are fully conversant with the use of gas detection equipment provided	<input type="checkbox"/>	<input type="checkbox"/>
12	Methods of application used;		
	a) <u>Surface Application Method</u> Initial rapid build up of the gas in the upper regions of hold airspace with subsequent penetration downward of the gas over a longer period	<input type="checkbox"/>	<input type="checkbox"/>
	or		
	b) <u>Deep probing</u> More rapid dispersion of the gas than in (a) with lower concentrations in upper regions of air space in the hold	<input type="checkbox"/>	<input type="checkbox"/>
	or		
	c) <u>Recirculation</u> Rapid dispersion of gas throughout hold but at lower initial gas levels with subsequent build up of gas levels which however may be lower due to even distribution.	<input type="checkbox"/>	<input type="checkbox"/>
	or		
	d) Other	<input type="checkbox"/>	<input type="checkbox"/>
		SHIP	FUMIGATOR IN-CHARGE

- |    |   |                          |                          |
|----|---|--------------------------|--------------------------|
| 13 | The Master or trained representatives have been briefed fully on the method of application and the spread of the gas throughout the hold  | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | The Master or trained representatives have been made;   |                          |                          |
|    | a) aware that even though the initial check may not indicate any leaks, it is essential that monitoring is to be continued in the accommodation, engine room, etc. because gas concentrations may reach their highest levels after several days | <input type="checkbox"/> | <input type="checkbox"/> |
|    | b) aware of the possibility of the spreading of gas throughout the duct keel and/or ballast tanks   | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | The Fumigator-in-charge has supplied a signed statement to the Master conforming to the requirements of 3.4.3.12 for his retention  | <input type="checkbox"/> | <input type="checkbox"/> |

The above has been agreed:

Time: .....

Date: .....

For Ship: .....

Fumigator-in-charge: .....

Rank: ..... "

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