



Secretariat

Distr.  
GENERAL

ST/SG/AC.10/C.3/2006/8  
16 March 2006

Original: ENGLISH

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**COMMITTEE OF EXPERTS ON THE TRANSPORT OF  
DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Transport of Dangerous Goods

Twenty-ninth session  
Geneva, 3-12 (a.m.) July 2006  
Item 7 of the provisional agenda

**MISCELLANEOUS PROPOSALS OF AMENDMENTS TO THE MODEL  
REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS**

Transport of cargo transport units ventilated after fumigation

Submitted by the expert from Germany

**Introduction**

1. Fumigated units are assigned to UN 3359 and they are subject to the provisions of 5.5.2. The entry was introduced in the twelfth revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations. Paragraph 5.5.2.2 requires a warning sign, which shall be removed when the fumigated unit has been ventilated to remove harmful concentration of fumigant gas. However, the fumigant may have penetrated into packages during the fumigation process. Therefore, even when the unit has been ventilated after fumigation, traces of fumigant may escape from the packages and may accumulate in harmful concentrations during a longer lasting transport, thus endangering persons inspecting or unloading the cargo.

2. The issue was already discussed during the session of the Joint Meeting of the RID Safety Committee and the Working Party on the Transport of Dangerous Goods, held in September 2005 (para. 84- 87 of TRANS/WP.15/AC.1/100) and during the 10th session of the IMO Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (para. 3.45-3.46 of DSC 10/17). DSC 10 agreed on an amendment to the IMDG Code. According to this amendment the date of the ventilation has to be shown on the warning sign, and the warning sign shall not be

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removed before ventilation and unloading of the fumigated goods or materials. Except for this provision, fumigated cargo unit which has been ventilated is not subject to the provisions of the IMDG Code. The German expert proposes to adopt the same amendment for the UN Model Regulations.

### **Background**

3. In 2002, the Government of the United Kingdom notified in IMO document DSC 7/3/17 that 2 percent of 650 containers inspected in a port were found to contain fumigant but were neither marked with the fumigation warning sign nor documented as “fumigated unit”. Such deficiencies are confirmed by similar experiences in Germany.

4. Random examinations of 303 containers carried out in Rotterdam in 2002 showed similar results. 5% of these containers were found to contain fumigant although they were not marked as fumigated (Measuring the amount of gas in import containers, T.Knol-de Vos, 15. October 2002, 729/02 IEM). The survey came to the conclusion that about two third of these containers had been ventilated but did still contain fumigants in concentrations above the applicable threshold limit values; one third apparently had not been ventilated at all and was transported under violation of applicable regulations without fumigation warning sign and without proper documentation.

5. It has to be taken into consideration that the UN Model Regulations do not contain requirements for the correct ventilation of fumigated units and even the description of ventilation in the IMDG Code neither prescribes a definite period of time for the ventilation nor requires a gas free measurement. Even if a gas measurement is carried out, this measurement results only in a preliminary gas condition at the time of measuring. The gas condition must be considered as preliminary due to the possible risk of fumigant escaping slowly out of packages during a long lasting transport. Nevertheless in general practice such preliminary gas condition is taken as evidence to consider the unit as completely ventilated and not hazardous. However the experience quoted in paragraphs 3 and 4 shows that even ventilation does not guarantee that such a unit is free of harmful concentrations of fumigant.

6. During transport of a unit which has been ventilated after fumigation, a risk will only occur when the unit is opened. Therefore, specific requirements for the documentation of such ventilated units are not considered necessary. But an appropriate warning mark visible to persons attempting to enter the unit should be provided to indicate that fumigation and ventilation were carried out and that the unit must be released by an authorized person before entering or unloading, because after a long transport a harmful gas concentration could have been accumulated again.

### **Proposal**

7. Amend 5.5.2.2 to read as follows:

“5.5.2.2 A warning sign as specified in 5.5.2.3 shall be placed on each fumigated unit in a location where it will be easily seen by persons attempting to enter the interior of the unit. The

marking, as required by this paragraph, shall remain on the unit until the following provisions are met:

(a) The fumigated unit has been ventilated to remove harmful concentrations of fumigant gas; and

(b) The fumigated goods or materials have been unloaded.”

8. In 5.5.2.3, add the following to the fumigation warning sign before the phrase “DO NOT ENTER”:

“VENTILATED ON [ date ]”.

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