

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

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LISTING, CLASSIFICATION AND PACKING

Package requirements for Organochlorine Pesticides

Transmitted by the Expert from Australia

SCOPE

This proposal recommends amendments to the packing requirements for organochlorine pesticides.

RELATED DOCUMENTS

The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification: 2004.

Introduction

1. In September 2007 an incident occurred at an Australian port with a container load of Endosulphan (UN2761). When the container was opened it was noted the air was stale and the cargo was emitting a strong odour. It appears this was due to the high temperature inside the container. Stevedores attempting to unpack the container were affected by the odour with one person being overcome by fumes and requiring medical assistance.
2. After attendance by emergency services the container and its contents were examined to determine the cause of the odour and why it affected the stevedores. It was found that the goods were packed in 4G boxes within an inner plastic liner sealed with a 'twist tie'. Examination of the packages found that the twist tie arrangement did not provide a secure seal and allowed the material inside to react with the atmosphere, emitting vapours which in turn caused a break down of the tape sealing the 4G cartons. This in turn allowed the vapours to be released into the container.

Issues

3. The entry for UN2761 (ORGANOCHLORINE PESTICIDE, SOLID, TOXIC) allows carriage in a 4G single packaging under packing instruction P002 with no requirement for an inner liner. However, under section 4.1.1.1 and 4.1.1.2(a), the arrangement of the package should be such that it can contain its contents under normal conditions of transport and not be adversely affected by its contents.

4. Given the toxicity of solid organochlorine pesticides, as listed in Table 1, the Australian Expert considers that the potential for these substances to emit toxic gases should be recognised when transported under UN2761. Within the IMDG code this is addressed by general requirements in section 4.1.1.7.2, where a hermetic seal is required for substances liable to emit a toxic gas.

Table 1: List of solid active ingredients currently in use taken from WHO recommended Classification of Pesticides by Hazard 2004

Active ingredient	WHO class	CAS No	Toxicity		Remarks
			Oral LD50(rat)	Inhalation	
Chlordane	II	57-74-9	200mg/kg	100mg/ m ³ (4hr) (LC50 cat)	Note 1 Note 2 UN2761
DDT	II	50-29-3	87mg/kg	toxic fumes when heated	Note 1 Note 2 UN2761
Dicofol	III	115-32- 2	575mg/kg	toxic fumes when heated	UN8027
Endosulfan	II	115-29- 7	18mg/kg	80mg/m ³ (4hr) (LC50 rat)	UN2761
Hexachlorobenzene	Ia	118-74- 1	10000mg/kg	3600mg/m ³ (LC50 rat)	Note 1 Note 2 UN2729
Hexachlorocyclohexane (HCH)	II	608-73- 1	100mg/kg	400µg/kg (TCLo man)	Note 2 UN2761
Lindane (Gamma HCH)	II	58-89-9	76mg/kg	toxic fumes when heated	Note 2 UN2761
Methoxychlor	U	72-43-5	5000mg/kg	toxic fumes when heated	UN2811
Pentachlorophenol	Ib	87-86-5	27mg/kg	355mg/m ³ (LC50 rat)	Note 1 Note 2 UN3155

Note 1: Banned or restricted by Stockholm Convention

Note 2: Prior informed consent (PIC) procedure required

5. The entry for Pentachlorophenol (UN3155) which is toxic both by oral and inhalation routes is also subject to P002, meaning a single 4G packaging is also permitted for this substance. While it is recognised that inhalation toxicity should be addressed by the general provisions of chapter 4.1 of the Model Regulations, the Australian Expert believes that a sift proof, tear proof and hermetically sealed inner liner should be specified for UN2761 and UN3155 to ensure the safe transport of this material.

Recommendation

6. The Expert from Australia recommends that a new special packing provision be applied to P002 which reads:

“PPXX: For UN2761 and UN3155 only combination packages are to be used. The inner packages shall be sift proof, tear proof and hermetically sealed.”
