



Secretariat

Distr.  
GENERAL

ST/SG/AC.10/C.3/2002/41  
5 April 2002

ORIGINAL : ENGLISH

**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-first session, 1-10 July 2002,  
agenda item 8(c))

**LISTING AND CLASSIFICATION**

**Miscellaneous amendment proposals (Parts 2 and 3)**

**New Special Provision for calcium hypochlorite, dry (UN 1748) in tablet form**

**Transmitted by the expert from South Africa**

**1. Background**

Calcium hypochlorite is used in large quantities all over the world. The historical demand has mostly been for the granular form and generally for swimming pool applications. However, significant global shifts in use patterns towards calcium hypochlorite in tablet form are currently taking place which necessitate a review of the current transport regulations.

Several hundred tons of calcium hypochlorite, dry (UN 1748) in tablet form are manufactured annually in South Africa. The shift in demand from granules has been driven for disaster relief operations, water purification and sanitization, as well as in specialized agricultural applications. One of the reasons for the increase in demand for the tablet form is that controlled dosing of chlorine can be achieved by the user.

The bulk of the demand for tablets is for low volume applications where an immediate but short term need has to be filled. Typical demands would be for disaster relief during floods, earth quakes, or for refugee camps. The dispensing systems that utilize tablets are ideally suited for such applications.

## 2. Reactivity when mixed with contaminants

Samples of calcium hypochlorite granules, dry, and tablets manufactured from calcium hypochlorite, dry, were tested for reactivity when mixed with contaminants.

For the purpose of the tests five well-known “contaminants” were chosen. The first three, namely glycerine, brake fluid and anti-freeze, are considered to present the most extreme incompatibility with calcium hypochlorite. The other two substances, namely household oil and general purpose grease, were chosen due to their historical nomination as possible contaminants involving calcium hypochlorite by fire investigators.

Three drops of contaminant was added to about 6 g of calcium hypochlorite, dry, granules and pieces of calcium hypochlorite, dry, tablets with the same mass.

The following results were found:

Sample	Reaction time in seconds	
	Granules	Tablets
Brake fluid	116	No reaction*
Glycerine	0,07	No reaction*
Anti-freeze	0,8	No reaction*
Household oil	No reaction*	No reaction*
General purpose grease	No reaction*	No reaction*
* The tests were terminated after 48 h.		

## 3. Classification

Although negative results were obtained for the tablets, the South African calcium hypochlorite industry is, however, concerned that tablets slotted into dispensing cartridges can still pose a hazard during transport in case of fire. Therefore, it is our opinion that tablets should be classified as Division 5.1, Packing Group III.

## 4. Proposals

**4.1** Add packing group III to UN No. 1748 to make provision for the classification of calcium hypochlorite tablets.

**4.2** Add the following Special Provision xxx to UN No. 1748:

Calcium hypochlorite, dry, in tablet form is classified as Division 5.1, packing Group III.