



Carefully to Carry

Calcium hypochlorite

The need to take the appropriate precautions in the stowage of this material still remains (see the UK Club's Loss Prevention Bulletin 116-11/99). Such matters were discussed in February 2000 at the International Maritime Organization's 5th session of the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC5) and some changes to the existing IMDG Code were drafted. These changes have been confirmed by the Maritime Safety Committee (MSC 72) in May 2000. The anhydrous (UN1748) hydrated (UN2880) and bleaching powder (UN2208) forms of the material are to be stowed on deck only (Category 'D'). It should be stowed out of direct sunlight. Bulk packages are not allowed nor is transportation in bags. Packing the materials in drums will ensure the possibility of air flow through a stow of such receptacles when they are stuffed into a freight container. This is important as air flow will assist in the dissipation of heat generated by these reactive materials.

The International Group of P&I Clubs (IG P&IC) submission to the IMO recommended changes to rules on package sizes. A maximum package size of 45kg net is still being recommended by this Group, although the IMO failed to recognise the need for the use of small packages. Also some delegates at the DSC5 meeting argued against the need to stow these cargoes 'clear of living quarters'. The IG P&IC continues to recommend that stowage should be 'clear of living quarters' because when this chemical decomposes it gives off the highly toxic gas chlorine.

The reasons for the IG P&IC recommendations are based on a better understanding of the properties of the hydrated form of the material UN2880 than had been available when, in the late 1970s, the IMDG Code entry for this material was discussed. Research carried out in Australia has highlighted the need to be more aware of the sensitivity of these materials to heat spontaneous decomposition, which leads to explosion and fire and which could occur at temperatures in the low 30oC for freight containers stuffed with large drums (about 200kg) of UN2880. Such temperatures are encountered in the holds of container vessels where there are heated fuel oil tanks. Thus the materials should not be stowed where the critical ambient temperature of the materials can be attained. If there is a risk with on deck stowage that the freight containers could be subjected to long periods of direct sunlight, steps should be taken to restow these freight containers. If this is not possible the freight containers should be covered with tarpaulins to provide shade.

The ocean transportation history of calcium hypochlorite suggests that all forms pose special challenges concerning safe carriage. The safety issues are complex and are aggravated by a high degree of product variability.



"The carrier shall properly and carefully load, handle, stow, carry, keep, care for and discharge the goods carried."

Hague Rules,
Articles iii, Rule 2

Carefully to Carry Advisory Committee

This report was produced by the Carefully to Carry Committee – the UK P&I Club's advisory committee on cargo matters. The aim of the Carefully to Carry Committee is to reduce claims through contemporaneous advice to the Club's Members through the most efficient means available.

The committee was established in 1961 and has produced many articles on cargoes that cause claims and other cargo related issues such as hold washing, cargo securing, and ventilation.

The quality of advice given has established Carefully to Carry as a key source of guidance for shipowners and ships' officers. In addition, the articles have frequently been the source of expertise in negotiations over the settlement of claims and have also been relied on in court hearings.

In 2002 all articles were revised and published in book form as well as on disk. All articles are also available to Members on the Club website. Visit the Carefully to Carry section in the Loss Prevention area of the Club website www.ukpandi.com for more information, or contact the Loss Prevention Department.

The 2000 amendment to the IMDG Code (Amendment 30), effective from 1 January 2001, states the following for calcium hypochlorite, UN Nos: 1748, 2208 and 2880:

“ Stowage and Segregation Category D. Cargo transport units should be shaded from direct sunlight and stowed away from sources of heat. Packages in cargo transport units should be stowed so as to allow for adequate air circulation throughout the cargo. 'Separated from' powdered metals and their compounds, ammonium compounds, cyanides, hydrogen peroxides and liquid organic substances.”

Should the new requirements fail to address the issues of package size and stowage away from accommodation, the IG P&IC plans to reaffirm its existing guidance to ship-owners. This draws attention to the association between fire risk and package size and the importance of stowage away from accommodation.



Some synonyms for calcium hypochlorite

B-K POWDER
BLEACHING POWDER
BLEACHING POWDER, containing 39% or less chlorine
CALCIUM CHLOROXYDROCHLORITE
CALCIUM HYPOCHLORIDE
CALCIUM HYPOCHLORITE
CALCIUM OXYCHLORIDE
CAPORIT
CCH
CHLORIDE of LIME
CHLORINATED LIME
HTH
HY-CHLOR
HYPOCHLOROUS ACID, CALCIUM SALT
LIME CHLORIDE

Some calcium hypochlorite is being shipped out of China declared as:

PRECHLOROISOCYANORIC ACID (UN 2465), and
SODIUM DI-ISOCYANORATE (UN 2466)

It may also be shipped as water purification tablets and swimming pool cleanser