

**COMMITTEE OF EXPERTS ON THE  
TRANSPORT OF DANGEROUS GOODS**

**(Twentieth session,  
Geneva, 7-16 December 1998,  
agenda item 2 (c))**

**OTHER DRAFT AMENDMENTS**

**Comments on “Copper sulphate, solid or solution” (ST/SG/AC.10/1998/46 - Germany)**

**Transmitted by the Expert from the United States of America**

The Expert from United States of America has reviewed the proposal from Germany on Copper Sulphate and does not support the proposal for the following reasons:

1. The assertion that copper sulphate, solids and solutions, had been regulated under UN 3010 is incorrect. UN 3010, Copper Based Pesticides, is for pesticides that meet the Division 6.1 criteria (i.e. toxicity data based on animal testing). In this context, copper sulphate does not meet the classification criteria of Division 6.1 as indicated by data cited in Germany's paper.
2. The UN Recommendations previously included a pesticides table. That table was reviewed by experts from the World Health Organization (WHO) and did not include copper sulphate as being a Division 6.1 pesticide.
3. The German proposal cited literature indicating that copper sulphate has been proven toxic by human experience. The expert from the United States has reviewed data from the American Association of Poison Control Centers (AAPCC) for the last ten years. There have been about 800 cases reported involving copper and copper salts. Of those there were 5 deaths and 18 cases with life-threatening effects. Of the 5 deaths, 4 were suicides with ingestion of copper sulphate and other materials, and the other death involved a 69 year-old who accidentally inhaled copper chloride and Benomyl. Data is not readily available for the cases with life-threatening effects. The German proposal cited an estimated fatal dose of about 140 mg/kg but did not elaborate on how this figure was derived.
4. Copper sulphate is a known emetic (induces vomiting) thus it limits the amount that can be ingested by the body to cause toxic effects.

Germany's proposal is based on an estimated toxicity derived from unspecified human experience. The Expert from the United States believes more specific data based on human experience should be required to classify copper sulphate in Division 6.1 as proposed by Germany.

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