

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

1 December 2010

Thirty-eighth session

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Item 4 of the provisional agenda

Listing, classification and packing

Classification of Mercury

Transmitted by the Expert from the United States of America

At its thirty-seventh session, the Sub-Committee agreed to provisionally adopt a proposal by Germany to add a Division 6.1 subsidiary risk to Mercury, UN 2809. The proposal was placed in square brackets and Sub-Committee members were invited to review the data with the understanding that the matter could be further discussed at the present session.

Following the discussions at the previous session, the United States has consulted with its national health authorities and further reviewed the data provided by Germany. During this review it was noted that in developing national acute exposure guideline levels (AEGs) for mercury vapour, these authorities had reviewed the paper cited in the German proposal (F Livardjani et al., *Toxicology* 66 (1991) 289-295). The study documented that two groups of 32 Wistar rats inhaled concentrations of 26.7 mg/m³ (3.25 ppm) of mercury vapor for one hour and 27.0 mg/m³ (3.29 ppm) of mercury vapor for two hours, respectively. No rats exposed to 26.7 mg/m³ of mercury vapor for one hour died and no clinical signs were evident. Rats exposed to 27.0 mg/m³ of mercury vapor for two hours showed dyspnea and 20 rats died within five days of exposure. Based on these results, an LC50 value for a one hour exposure could not be calculated and an LC50 value for a two hour exposure could only be estimated.

Currently, the Model Regulations define LC50 for acute toxicity on inhalation as “that concentration of vapour, mist or dust which, administered by continuous inhalation to both male and female young adult albino rats for one hour, is most likely to cause death within 14 days in one half of the animals tested” (see 2.6.2.1.3). In the study cited by Germany, no rats died after a one hour exposure. Therefore based on the results of the testing conducted, Mercury would not be classified as toxic based on the one hour exposure referred to in the defining criteria for a toxic by inhalation liquid.

At the present session, the Sub-Committee will have considered documents ST/SG/AC.10/C.3/2010/63 (ICAO) “Comments on toxic subsidiary risk for mercury” and UN/SCETDG/38/INF.15 (United Kingdom) “Proposal for a new UN number for Mercury in manufactured articles.” These documents note practical and logistical implications that would result from the reclassification of Mercury and in INF.15 the United Kingdom proposes an alternative solution to address these implications. Based on an in-depth review of the data provided by Germany, and the substantive implications of the provisionally adopted reclassification, it is proposed that the Sub-Committee not adopt the additional Division 6.1 subsidiary risk tentatively agreed to at the previous session.