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**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

Thirty-fifth session  
Geneva, 22–26 June 2009  
Item 11 of the provisional agenda

**ANY OTHER BUSINESS**

Validity of temperature control criteria for organic peroxides

Transmitted by the International Council of Chemical Associations (ICCA)<sup>1</sup>

**Introduction**

1. During the thirty-fourth session of the Sub-Committee meeting in December 2008, informal documents INF.32 and INF.32/Add.1 of IMO were discussed. The Sub-Committee noted that the accident, described in the IMO informal documents, concerning a fire and subsequent explosion in a container loaded with methyl ethyl ketone peroxide, would have probably not happened if all requirements contained in the IMDG Code had been complied with. A requirement for carrying this specific organic peroxide in temperature-controlled containers could be justified only if it could be demonstrated that the current requirements are not appropriate.

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2009-2010 approved by the Committee at its fourth session (refer to ST/SG/AC.10/C.3/68, para. 118 and ST/SG/AC.10/36, para. 14).

2. ICCA said that a study containing an evaluation of the current requirements for temperature control during transport of organic peroxides had just been published, and that the conclusion was that the current requirements for the need of temperature control were adequate. ICCA stated further that they would provide more detailed information at the next session.

3. The information provided in informal document INF.4 is the full scientific publication of a study executed by TNO the Netherlands and Akzo Nobel Polymer Chemicals and Technology & Engineering. The conclusions of the study were that the current UN criteria for organic peroxides are adequate.

4. A number of aspects of the transport legislation had been checked e.g. product quality, correct transport classification including the correct thermal stability (i.e. Self-Accelerating Decomposition Temperature, SADT), correct packaging compatible with the product, correct loading and stowage and (in case of temperature control) correct transport temperature, functioning of refrigerated containers (including alarms, connections, back-up cooling etc.). The study concluded that incidents were caused because one or more of the above mentioned aspects had not been carefully checked or complied with.

5. It should also be mentioned that under long term storage conditions of non-temperature controlled products (including storage in e.g. harbours) the industry involved insists on avoiding stowing containers in direct sunlight (making use of e.g. sun-shield, cover, shadow etc.).

6. Informal document INF.4 contains the full text of the publication with the reference: Validation of the UN criteria for the uncooled sea transport of liquid organic peroxides: Full-scale test and modelling, Journal of Loss Prevention in the Process Industries 21 (2008), 635-641 M. Steensma, and P. Schuurman (Akzo Nobel Technology & Engineering), W.A. Mak (TNO, Netherlands).

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