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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-fourth session
Geneva, 1-9 December 2008
Item 2 of the provisional agenda

EXPLOSIVES AND RELATED MATTERS

Screening test for substances which may have explosive properties and consequential changes
Introduction of additional criteria

Transmitted by the International Council of Chemical Associations (ICCA)¹

Background

1. At the thirty-third session of the Sub-Committee, ICCA submitted a proposal (document ST/SG/AC.10/C.3/2008/40) for a screening test to screen for substances for which may have explosive properties.
2. The goal of this proposal was to establish an improved way to assess the detonation behaviour for new substances suspected of having explosive properties. It was demonstrated in the paper that this would result in a substantial reduction of the hazards in performing the test as well as in a saving of costs, especially for pharmaceutical substances.

¹ In accordance with the programme of work of the Sub-Committee for 2007-2008 approved by the Committee at its third session (refer to ST/SG/AC.10/C.3/60 para. 100 and ST/SG/AC.10/34, para. 14).

3. Discussion in the Working Group on Explosives showed that there was general support for the proposal, and members of the Working Group offered several comments and encouraged ICCA to submit a paper for a future session.

4. Taking the suggestions and comments into account, ICCA has modified its proposal accordingly.

Proposals

5. Modify the NOTE in Appendix 6, chapter 3, of the UN Manual of Tests and Criteria to read:

“Neither a Series 1 type (a) propagation of detonation nor a Series 2 type (a) test of sensitivity to detonative shock is required if the exothermic decomposition energy of organic materials is less than 800 J/g. For organic substances and mixtures with a decomposition energy of 800 J/g or more, tests 1 (a) or 2 (a) do not have to be performed if the outcome of the Ballistic Mortar MK.IIID test (F.1), or Ballistic Mortar (F2) or the BAM Trauzl test (F.3) with initiation by a standard #8 detonator is “no”. In this case, the results of test 1(a) and 2(a) are deemed to be ”- ”.

6. Insert a new paragraph 11.3.5 in Section 11 of the UN Manual of Tests and Criteria to read:

“For organic substances and mixtures with a decomposition energy of 800 J/g or more, test 1 (a) does not have to be performed if the outcome of the Ballistic Mortar MK.IIID test (F.1), or Ballistic Mortar (F2) or the BAM Trauzl test (F.3) with initiation by a standard #8 detonator is “no”. In this case, the result of test 1(a) is deemed to be “-“. If the outcome of the F.1 or F.2 or F.3 test is “not low”, the result of test 1(a) shall be deemed “+”. In this case, a “-“ can only be obtained by performing test 1(a).”.

7. Insert a new paragraph 12.3.4 in Section 12 of the UN Manual of Tests and Criteria to read:

“For organic substances and mixtures with a decomposition energy of 800 J/g or more, test 2 (a) does not have to be performed if the outcome of the Ballistic Mortar MK.IIID test (F.1), or Ballistic Mortar (F2) or the BAM Trauzl test (F.3) with initiation by a standard #8 detonator is “no”. In this case, the result of test 2(a) is deemed to be “-“. If the outcome of the F.1 or F.2 or F.3 test is “not low”, the result of test 2(a) shall be deemed “+”. In this case, a “-“ can only be obtained by performing test 2(a).”.

8. Modify paragraph 21.2.2 in Section 21 of the UN Manual of Tests and Criteria to read:

“For organic peroxides and self-reactive substances, a combination of a test for explosive power (any test of series F except F.5 for peroxides, and any test of series F except F.4 and F.5 for self-reactive substances) with two tests for the effects of heating under confinement may be used as a screening procedure for assessing the ability to propagate a detonation. A test of series A need not be performed if:

- (a) A “No” result is obtained from the explosive power test; and
 - (b) A “No” or “Low” result is obtained from test E.2 and either test E.1 or E.3.”.
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