

## 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-second session  
Geneva, 3-7 December 2007  
Item 10 of the provisional agenda

### ISSUES RELATED TO GHS

#### Substances having explosive properties Comments to ST/SG/AC.10/C.4/2007/6 (Secretariat)

Transmitted by the International Council of Chemical Associations (ICCA)

#### **A. Background**

1. At the thirty-first session of the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee), document ST/SG/AC.10/C.3/2007/10 submitted by the expert from Germany was discussed. Essentially, this paper suggested introducing additional tests for mechanical sensitiveness to impact and friction for the communication of explosive properties.
2. Based on the decision by the Explosives Working Group (UN/SCETDG/31/INF.45), the TDG Sub-Committee decided that sensitiveness to impact and friction was not an issue for classification, but should be communicated through the safety data sheet.
3. Further, the TDG Sub-Committee recommended to the GHS Sub-Committee that a reference to Test Series 1 for determining explosive properties should be included in the GHS.
4. In the GHS Sub-Committee, a final decision was deferred to the fourteenth session to allow for consultations at national level and it was further agreed that the proposal should be reconsidered at the fourteenth session on the basis of an official proposal prepared by the Secretariat.
5. In its proposal ST/SG/AC.10/C.4/2007/6 for the GHS Sub-Committee, the Secretariat suggests making Test Series 1 mandatory in the classification procedure of Explosives and to allow exclusion from Division 1.1 to 1.6 only for transport provided that Test Series 2 demonstrates that the substance/mixture is too insensitive\*.

#### **B. Consequences**

6. If the proposal would be adopted then Test Series 1 would have to be performed in all cases when a substance of mixture has been identified to be a potential explosive. A substance or mixture with a positive result in Test Series 1 would then be classified as an Explosive in GHS whereas in transport it could be excluded on the basis of Test Series 2.

---

\* **Note by the secretariat:** This is not a suggestion by the secretariat, but a recommendation of the Working Group on explosives endorsed by the TDG Sub-Committee (refer to ST/SG/AC.10/C.4/2007/6, para. 4).

**C. Discussion**

7. In section 10.3.3.3, the UN Manual of Tests and Criteria gives guidance on testing for provisional acceptance in Class 1. The text reads: “Although test series 1 indicates whether a substance, not designed to have an explosive effect, has in fact explosive properties, again it is more appropriate to start the testing procedure with test series 3. ... If test series 3 indicates that the substance is not too insensitive for transport, the next step is the application of test series 2 which determines whether the substance is too insensitive for inclusion in Class 1. There is no real need to perform test series 1 at this point in the acceptance procedure since test series 2 answers the pertinent question regarding the degree of insensitiveness of the substance. Test series 1 is concerned with the resolution of questions relating to the explosive nature of the substance ...”.

8. Obviously, test series 1 has not been mandatory so far, and it has never served for hazard communication either.

9. Adopting the proposal would mean that substances which have been safely handled, stored and transported for many years would have to be retested according to test series 1 in the GHS.

10. Moreover, the GHS would treat energetic substances much more severely than transport: For the GHS, a substance with a positive result in test series 1 could not leave the classification as an Explosive in Division 1.1 to 1.6 whereas in transport most substances would be excluded due to negative results in test series 2. In many countries, the legal consequences of such a classification would be severe and not justified in comparison to the hazard potential of intentional explosives.

11. If the proposal would be accepted, the flowchart in figure 2.1.2 of the GHS document would have to be modified accordingly and would not be in line with transport.

12. For research and development, industry anticipates great difficulties in performing test series 1. Throughout research up to pilot plant scale, the availability of material for testing is a critical issue, especially for pharmaceuticals and agrochemicals with a multi-step synthesis. In most cases, there is not enough material available to perform test series 1 and / or 2.

13. Especially the gap tests of test series 1 and 2 present another major health hazard to the testers since the material is finely dispersed in the test facility which has to be decontaminated subsequently. Early stages of a drug project may be toxic or carcinogenic; in later stages the substance may become highly physiologically active.

14. Only very few institutes with an explosives license are able to perform the tests.

**D. Conclusion**

15. For the reasons given above, the mandatory application of test series 1 would constitute a big burden for industry. It is therefore proposed that the classification criteria for Explosives should be based on test series 2 and kept in line with transport regulations. A classification into Division 1.1 to 1.6 based on a positive result in test series 1 in GHS is too conservative and not justified.

**E. Proposal**

16. Industry therefore asks that, before a decision is taken by the UN GHS Sub-Committee, the UN TDG Sub-Committee re-considers the issue and proposes a further discussion in the UN TDG Committee and its Explosives working group at the next session. The development of small-scale tests, as suggested in paragraph 13 of UN/SCETDG/31/INF.45, may provide a valuable input into that discussion. Industry is willing to actively contribute to a solution.

---