



**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****Forty-first session**

Geneva, 25 June – 4 July 2012

Item 2 (f) of the provisional agenda

Explosives and related matters: miscellaneous**Manual of Tests and Criteria****Recommendations for clarification related to the Test Series
6(c) Bonfire Test****Transmitted by the expert from the United States of America¹****Introduction**

1. Section 16.6.1.4.4 of Manual of Tests and Criteria 5th Revised Edition (ST/SG/AC.10/11/Rev.5 – referred to subsequently as MTC5) addresses criteria for inclusion of products in Division 1.3. Based on experience in evaluating the results of test results, it is believed that minor clarifying amendments are in order to: (1) clarify the requirement for recording equipment, and (2) clarify the test criteria for evaluation of fireballs/jet flames.

2. The apparatus and materials list for the Test 6 (c): External fire (bonfire) test, Section 16.6.1.2(h) indicates that cameras are required to record events. However, subsequent sections outlining the procedure and test criteria do not specify any details with respect to the orientation of cameras required to record the test. Previous requests for test videos have resulted in delivery of a single video showing one angle, typically set up to show the fire grate with witness screens on the left and right and rear of the grate. Evaluation of effects from the test toward the rear witness screen or toward the camera has

¹ In accordance with the programme of work of the Sub-Committee for 2011-2012 approved by the Committee at its fifth session (refer to ST/SG/AC.10/C.3/76, para. 116 and ST/SG/AC.10/38, para. 16).

been problematic. It is therefore proposed that text be added to 16.6.1.3.5 to ensure that videos comprehensively capture test results in a manner that can be adequately reviewed.

3. In addition, there appears to be some confusion regarding the test evaluation criteria for Division 1.3 in the bonfire test, found in Section 16.6.1.4.4(a), related to the effect of fireballs or jets of flame which exceed 4 meters from the grate (vertical direction) but do not directly pass the witness screens. The MTC 2nd revised edition (MTC2) contained additional criteria whereby “a jet of flame which extends more than 3 meters from the flames of the fire” would keep a product in HC/D 1.3 (Section 16.6.1.4.4(b), MTC2). This criteria was not included in the MTC 3rd revised edition or subsequent editions. We have received test reports which indicate a test has met all the criteria for a 1.4 or 1.4S classification, but upon receipt of the video results we have observed jetting which appears to be up to 8 meters from the grate in a vertical direction but does not pass any of the witness screens. These results are said to have passed the criteria in 16.6.1.4.4(a). The expert from the United States of America believes however that the intent of test evaluation criteria for Division 1.3 in the bonfire test, found in Section 16.6.1.4.4(a), is to measure the effect of fireballs or jets of flame which exceed 4 meters in any direction from the edge of the package. The proposed clarifying amendment to 16.6.1.4.4(a) ensures that downwind and upward projections where witness screens are not present are accounted for and captured by the required video cameras.

Proposals

Section 16

4. Amend 16.6.1.3.5 to add at the end:

Video cameras should be set up so as to observe effects toward all witness screens and in all directions from the grate.

5. Amend 16.6.1.4.4(a) of the 6(c) test procedure to read:

(a) a fireball or jet of flame which extends more than 4 m in any direction from the edge of the packages or unpackaged articles.
