

**Committee of Experts on the Transport of Dangerous Goods  
and on the Globally Harmonized System of Classification  
and Labelling of Chemicals**

11 November 2016

**Sub-Committee of Experts on the  
Transport of Dangerous Goods**

**Fiftieth session**

Geneva, 28 November-6 December 2016

Item 7 (h) of the provisional agenda

**Issues related to the Globally Harmonized System  
of Classification and Labelling of Chemicals:**

Review of Chapter 2.1 of the GHS

**Sub-Committee of Experts on the Globally Harmonized  
System of Classification and Labelling of Chemicals**

**Thirty-second session**

Geneva, 7-9 December 2016

Item 2 (b) of the provisional agenda

**Classification criteria and related hazard**

**communication:** Work of the Sub-Committee of Experts  
on the Transport of Dangerous Goods (TDG Sub-  
Committee) on matters of interest to the GHS Sub-  
Committee

**Comments on proposed amendments to the Manual of Tests  
and Criteria (ST/SG/AC.10/C.3/2016/83-  
ST/SG/AC.10/C.4/2016/16)**

**Transmitted by the experts from the United States of America and  
Canada**

**Introduction**

1. This informal paper provides comments on the report submitted by the Chairman of the Working Group on Explosives proposing amendments to the sixth revised edition of the Manual of Tests and Criteria (MTC) to facilitate use of the manual by GHS as well as Transport (ST/SG/AC.10/C.3/2016/83-ST/SG/AC.10/C.4/2016/16). The experts from the United States of America and Canada have been active participants in the discussions leading up to this submission and would like to thank the Chair for his continued leadership in this work. Although initially anticipated to be strictly editorial in nature, work over the past biennium has demonstrated that amendments to the MTC are likely to have a broader and more substantive impact than originally foreseen. This is especially true with regard to amendments to accommodate the ongoing work on GHS Chapter 2.1. It is therefore proposed this important MTC work be deferred until finalizing any revisions to the GHS Chapter 2.1 occurs rather than the Sub-Committee proceeding towards finalizing proposed MTC amendments at the present session, to ensure due consideration of substantive revisions and consistency with any agreed amendments to GHS.

**Background**

2. The Sub-Committee of Experts for the Transport of Dangerous Goods (TDG Sub-Committee) at its forty-fifth session initially considered a document from the Secretariat proposing editorial amendments to the MTC to accommodate GHS (ST/SG/AC.10/C.3/2014/61-ST/SG/AC.10/C.4/2014/8). The proposed text was submitted under informal documents and addenda (TDG/45/INF.8-GHS/27/INF.5 and Addenda 1-5).

3. Also during the forty-fifth session, the Chairman of the Explosives Working Group submitted informal document TDG/45/INF.4. This document included proposals resulting from a review of various tests in the MTC discussed during the 44<sup>th</sup> session, with additional textual changes proposed to begin removing transport-specific language from the various test methods in anticipation of the request from the Secretariat.

4. During the forty-fifth session, informal document TDG/45/INF.35 noted that changes to incorporate GHS were complex and deserved a thorough review to “avoid any unintended and negative consequences to the transport context of the MTC and to current transport classifications resulting from the use of the tests in the MTC”. The TDG Sub-Committee agreed that through discussions should occur beginning at the 47<sup>th</sup> session of the TDG Sub-Committee in June 2015.

## **Justification for continuing the MTC work**

5. As a result of multiple interagency and stakeholder discussions and deliberations with other Explosives Working Group members, a number of areas requiring further discussion and development have been identified. These areas are outlined below for consideration by the Sub-Committee.

- The current test procedures and criteria in Part 1 of the MTC were designed to address situations related to safe transport of explosives and other classes or divisions, e.g. self-reactives and organic peroxides. Those procedures and associated criteria reflect this intent and in many cases anticipate likely points of explosives initiation and risks that may be unique to the transport sector. This approach has resulted in the safe transport of explosives for several decades. Removal from the MTC of the word “transport,” and insertions of other supporting amendments in that vein, is in some instances reducing the clarity of the current text. This in turn may have the unintended consequence of leading to incorrect testing configurations that could improperly classify explosives and impact safety. Providing additional time for this work will help to ensure continued consistency in MTC interpretations between competent authorities in the transport sector, industry and regulators in other sectors.
- For transport classifications, entry into Class 1 is based on intrinsic properties or the intent for use as an explosive, but the six divisions are based on non-intrinsic properties such as the degree of hazard as controlled by quantity, form and packaging, and also the probability of initiation, i.e. risk. This is being discussed in the work related to changes in GHS Chapter 2.1, which are still underway, and that project is trending away from use of the transport divisions for GHS purposes, which could mean many test procedures will not need to be modified in the MTC.
- The MTC states that it is not a concise formulation of test procedures that will unerringly lead to proper classifications. Competent authorities must use expertise to interpret, add or modify tests in the MTC (MTC 1.1.2). While appropriate for explosives and related classes in the transport sector, the MTC’s instructions to use expert discretion do not apply universally for all tests in the MTC, for example those used by lithium battery manufacturers. The non-discretionary parts of the MTC would benefit from revised instructions for use.
- The UN 4(b) drop test procedure indicates the test must be carried out on packages in their transport configuration. If the text is changed to a generic “certain configuration” reference for GHS purposes, it follows that in supply and use or other sectors where the packaging is altered or removed, the test procedure would imply retesting is necessary. This test and the associated criteria were developed

for transport-specific scenarios and risk acceptance, and may not be applicable for other sectors.

- The proposed introductory text has not had adequate review by many GHS experts. The short text explaining GHS in the MTC is unbalanced compared to the more extensive section for transport and likely needs further review. For example, the proposed text stating that explosives articles are the only articles covered by GHS is incorrect - aerosols are covered, as well as substances or mixtures inside other devices such as lithium batteries. The only articles that are not covered by GHS are those that pose no hazard in use, as explained in GHS 1.3.2.1.1 and the referenced OSHA regulations.

## **Path forward**

6. The GHS Chapter 2.1 work has expanded in scope to the potential creation of a new category system. As explained in a companion paper submitted by the U.S. on GHS Chapter 2.1 (see S<sup>U</sup>N/SCETDG/50/INF.18, UN/SCEGHS/32/INF.15), the work should first focus on establishing scope and applicability for the new classification system based upon intrinsic material properties (rather than packaging dependent divisions such as for transport). Establishing purpose will identify which tests in the MTC are necessary to properly communicate the hazards for the GHS.

## **Conclusions**

7. At this point, it is unknown whether all tests in the Manual, such as UN Test Series 5-8 that are used to arrive at Division-level designations within transport Class 1, will be required for GHS classification and labelling of intrinsic hazards for explosives. It would be premature for the TDG Sub-Committee to agree to the proposed amendments to the MTC before the GHS decisions on intrinsic properties are finalized and the GHS Chapter 2.1 text has been completely edited to clarify how it will use the MTC in its classification procedures. Potential conflicts and unintended adverse consequences associated with the TDG Sub-Committee approving any proposed MTC amendments greatly outweigh all benefits from making any of those changes immediately. To ensure a correct outcome to this important work, it is proposed that amendments to the MTC for explosives and related classes be deferred until further work has been completed to include finalizing any revisions to GHS Chapter 2.1.

---