

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

24 November 2014

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

Forty-sixth session

Geneva, 1–9 December 2014

Item 8 (c) of the provisional agenda

**Issues relating to the Globally Harmonized System
of Classification and Labelling of Chemicals:
criteria for water reactivity**

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

Twenty-eight session

Geneva, 10 – 12 (morning) December 2014

Item 2 (b) (i) of the provisional agenda

**Classification criteria and related hazard
communication: work of the Sub-Committee of Experts
on the Transport of Dangerous Goods (TDG): physical
hazards**

**Criteria for water-reactivity, agenda item 8(c) HM-14 project
status report**

Transmitted by the expert from the United States of America

Introduction

1. During previous sessions, the Sub-Committee has been presented with information related to the development of criteria and test methods for the classification of materials that in contact with water evolve toxic and/or flammable gases (see INF.40 of the 42nd session and ST/SG/AC.10/C.3/2013/21) through a contract managed by the U.S. Transportation Research Board (TRB). This work is now complete and the full report titled: *HM-14: Test Procedures and Classification Criteria for Release of Toxic Gases from Water-Reactive Materials* published on 8 October, 2014. The report is available online: http://onlinepubs.trb.org/onlinepubs/hmcrp/hmcrp_rpt_013.pdf
2. The report contains a full description of the research approach, findings and conclusions. Appendix A to the report contains a test method developed to evaluate both liquids and solids for water reactivity and for evolution of both flammable and toxic gases. This new test method has been validated using 10 known water reactive substances (See Annex).
3. Experts are invited to review the report, and in particular the new test method, and invite laboratories to conduct trials using some or all of the same 10 substances used for validation testing to verify results and ensure reproducibility.
4. The issuance of this report by the U.S. Transportation Research Board concludes the major technical work initiated by the United States in support of the work initiated by France and Germany under the terms of reference identified in UN/SCETDG/34/INF.44, paragraph 8. The United States looks forward to continued cooperation with other Experts on this topic.

Annex

Water reactive substances used for validation of the new test method:

UN 1162 Dimethyldichorosilane

UN 1390 Sodium Amide

UN 1426 Sodium Borohydride

UN 1717 Acetyl Chloride

UN 1726 Anhydrous Aluminum Chloride

UN 1810 Phosphoryl Chloride

UN 1818 Silicon Tetrachloride

UN 1836 Thionyl Chloride

UN 1838 Titanium Tetrachloride

UN 3132 Magnesium Nitride
