

**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

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

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EXPLOSIVES AND RELATED MATTERS

Classification of Ammonium Nitrate Emulsions

Transmitted by the expert from United Kingdom

Introduction

1. The UK submitted proposals to amend Figure 10.4, Test series 8 at the informal working group on ANE and Test Series 8 held in Spain February 2005 see ST/SG/AC.10/C.3/2005/6, and at the 27th session of UNSCOE, see ST/SG/AC.10/C.3/2005/14, to ensure that Ammonium nitrate emulsions, suspensions and gels (ANE) candidate substances could not be classified as non-dangerous on the basis of results in other Test Series. The amendments were considered by the explosives working group and the Sub-Committee (UN/SCETDG/27/INF.39; para 18, ST/SG/AC.10/C.3/54) and included in the Manual of Tests and Criteria (4th edition, Amendment 2).

2. The Secretariat's Informal paper to GHS in July 2005 (UN/SCEGHS/9/INF.20) contained a modified version of the T & C Manual Figure 10.4 and this was accepted by GHS subcommittee with modifications (ST/SG/AC.10/C.4/18). The text in the final box of Figure 2.1.4 is reproduced below;

"Substance/mixture accepted for classification as an oxidizing liquid or an oxidizing solid as an ammonium nitrate emulsion, suspension or gel, intermediate for blasting explosives (ANE); (Chapters 2.13 or 2.14)"

Discussion

3. Figure 10.4 of The Manual Test and Criteria specifies the substance that passes Tests 8(a), 8(b) & 8(c) is accepted into Division 5.1. However, using the flow chart in GHS Figure 2.1.4 the substance is accepted for classification as an oxidising liquid or oxidising solid. This would include the criteria in Chapter 2.13 or 2.14. Classification into one of the 3 categories of oxidising solid is based on test O.1 in 34.4.1 of the Manual of Tests and Criteria.

4. UK discussions on GHS issues relating to ANE have discovered an anomaly in the final decision box of Diagram 2.1.4 of GHS. ANE substances tested in UK using Test Series 8 have been classified as UN 3375, Division 5.1, and penetrometer test results (ADR 2.3.4) have shown these substances to be solids. These same substances have also been subjected to the Oxidiser Test, O1, for Division 5.1 substances and all gave results showing they were "Not Division 5.1". These results are due to the presence of water, required to be part of the formulation (SP 308), that prevents the ignition of the cellulose.

5. The guidance in paragraph 2.14.4.2 of GHS (Rev2) allows known experience to override the test results. However, the UK Expert believes ANE is a special case, with its own Test Series, and ANE substances accepted as for GHS classification as oxidising liquid or oxidising solids should be automatically classified as Category 1 or Category 2.

Note: Accidents involving ANE's have resulted in fires and explosions. As a result of the Explosives Working Group discussions on ANE's these are also assumed to be in packing group II (equivalent to GHS Category 2 oxidising solid/liquid) without the need for the oxidiser test in Section 34 of the Manual of Tests and Criteria. see (ST/SG/AC.10/C.3/2001/6)- report of the working group on the classification of Ammonium Nitrate Emulsions April 2001.

Proposal

6. Amend the title of Figure 2.1.4 to

"Procedure for the classification of ammonium nitrate emulsion, suspension or gel (ANE)"

7. Amend the final box in Figure 2.1.4 to

"ANE substance/mixture shall be classified as a Category [1 or 2] oxidizing liquid or a Category [1 or 2] oxidizing solid; (Chapters 2.13 or 2.14)"

with the final choice of either Category 1 or Category 2 to be decided at the July meeting.
