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 **14 June 2013**

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Item 2 (f) of the provisional agenda
Explosives and related matters: miscellaneous

Proposal to have the UN Packing Group for UN No 3375 reviewed and possibly changed from PG II to PG III

Transmitted by the Australian Explosives Industry and Safety Group Inc. (AEISG)

Introduction

1. UN No 3375 with name and description 'AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives' (ANE) was introduced by the Committee of Experts on the Transportation of Dangerous Goods into the 15th Revised Edition of the 'Recommendations on the Transport of Dangerous Goods. Model Regulations'. UN No 3375 was deemed to belong to Division 5.1 with Packing Group II (PG II). Before a material can be assigned UN No 3375 it must meet the requirements of Special Provision 309 with respect to its formulation and physical characteristics.

Background

2. In ST/SG/AC.10/1998/45, the Expert from France proposed that a new UN number be introduced for ANEs and, depending on the 'sensitivity' of the material, that an appropriate Packing Group of either I, II or III be used. The recommendation of placing ANEs into Division 5.1 was fully supported by work carried out by OECD-IGUS (UN/SCETDG/16/INF9) where it was demonstrated, based on Tests O.1 and O.2, 'Recommendations on the Transport of Dangerous Goods. Manual of Tests and Criteria.', that the typical family of ANEs could be deemed to be "oxidizing substances of Division 5.1".

3. Thus, in ST/SG/AC.10/C.3/2000/21, the Chairman of the Working Group, in supporting the recommendation of the Expert from France, recommended the introduction of a new UN number for ANEs within Division 5.1 and with Packaging Group III (PG III). Within this recommendation the formulation for ANEs and a series of tests (later known as Test Series 8) to determine the dangerous goods classification of ANEs were defined. These requirements were later listed in Special Provision 309 (SP 309) of the 'Recommendations on the Transport of Dangerous Goods. Model Regulations'.

4. Following further discussions within the Working Group, the tests to determine the dangerous goods classification of ANEs as detailed in ST/SG/AC.10/C.3/2000/21 were further refined and an updated recommendation as detailed in ST/SG/AC.10/C.3/2001/6 was made by the Chairman of the Working Group. The Packing Group in this recommendation given to ANEs was PG II. The change from PG III in ST/SG/AC.10/C.3/2000/21 to PG II in ST/SG/AC.10/C.3/2001/6 is unclear and is not

supported by the various informal documents tabled in support of the recommendations made in ST/SG/AC.10/C.3/2001/6. It can only be assumed that a typographical error occurred and this has been forwarded into subsequent revised editions of the 'Recommendations on the Transport of Dangerous Goods. Model Regulations'.

5. In ST/SG/AC.10/C.3/2004/25 the Expert from Sweden proposed that an additional new entry for sensitized ANEs be considered by the Committee of Experts on the Transportation of Dangerous Goods. In this proposal PG II was given to these sensitized ANEs. This further indicates that an error exists within 'Recommendations on the Transport of Dangerous Goods. Model Regulations.' where 'un-sensitized' ANEs as defined by SP 309 should be PG III. Despite this proposal it is likely that 'sensitized' ANEs should probably belong to Division 1.5 rather than Division 5.1.

Discussion

6. Most, if not all, ANEs can be deemed to be viscous or pasty substances in accordance with Section 2.3.4 'Tests for determining fluidity' within ECE/TRANS/140 'European Agreement concerning the International Carriage of Dangerous Goods by Rail'. It has been found that with a comprehensive range of ANEs tested in accordance with Test O.1 'Test for oxidizing solids' in 'Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria 5th revised edition.' all exhibit PG III characteristics and in accordance with Test O.1 some could in fact be deemed to be 'non-oxidizers'. These results fully support the findings of the OECD-IGUS as mentioned in UN/SCETDG/16/INF9.

7. The principal component of all ANEs is ammonium nitrate, which has been allocated PG III. It would seem logical that ANEs have a similar determination based on their formulations as defined by SP 309. Packaging Group is an assessment of the degree of risk a material poses during transport. The risk posed by ammonium nitrate and ANEs are similar.

8. Since 2000, millions of tonnes of ANEs have been transported by road, rail and sea around the globe and to date no significant hazardous event has occurred during transport. This further emphasises that the overall risk associated with the transport of ANEs is low and that PG III is appropriate.

Consideration

9. The sub-committee is requested to reconsider the Packaging Group allocated to UN No 3375 and as defined by SP 309 and correct an apparent error that has inadvertently existed since the 15th Revised Edition of the 'Recommendations on the Transport of Dangerous Goods Model Regulations'.