

## **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

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Item 2 (b) of the provisional agenda

**Recommendations made by the Sub-Committee on  
its forty-seventh, forty-eighth and  
forty-ninth sessions and pending issues:  
explosives and related matters**

## **Clarification of the classification of ammonium nitrate based fertilizers – proposal for a new Section 39 in the Manual of Tests and Criteria**

**Transmitted by the Australian Explosives Industry Safety Group  
(AEISG)**

### **Background**

1. In working document ST/SG/AC.10/C.3/2016/66 the expert from Sweden, acting on behalf of an ad hoc working group of IGUS consisting of European based government experts from Sweden, Netherlands, United Kingdom, France and Germany, further expands upon a proposal to clarify the classification process for ammonium nitrate based fertilizers. The issue was discussed in detail, using working document ST/SG/AC.10/C.3/2016/29, informal documents INF.5 and INF.23 (49th session) during the meeting of the Working Group on Explosives (EWG) at the forty-ninth session.
2. As explained in the above referenced documents, the reason for clarifying the classification of AN-based fertilizers is that they are not sufficiently clear as currently formulated, which leads to misinterpretations (unintended or deliberate). These misinterpretations can lead to transport scenarios in which AN-based fertilizers are classified or described in terms that minimise or disguise the level of hazard. Some fertiliser mixtures may be classified and transported as non-dangerous goods. In other cases, nominal pure ammonium nitrate may be assessed as presenting minimal hazard simply because it is “fertiliser” or “fertiliser grade”. As many downstream regulations use the transport classification as a basis for other safety measures, e.g. when storing AN-based fertilizers, the disguised risks associated with these products can transfer further along the supply chain. Apart from the risk this poses to transporters, other workers, rescue personnel and the general public, this also leads to unfair competition amongst suppliers, since the transport and handling of supposedly “non-hazardous material” is cheaper and subject to less regulatory restrictions.
3. In paragraph 8 of working document ST/SG/AC.10/C.3/2016/66, and in paragraph 5 of the earlier working document ST/SG/AC.10/C.3/2016/29, it is emphasized that the intention is not to introduce changes to current requirements but merely to clarify existing provisions related to the classification of ammonium nitrate based fertilisers.

## Introduction

4. AEISG has previously expressed support to the ad hoc working group for the work being undertaken to clarify the classification process for ammonium nitrate based fertilisers as it too believes the various criteria listed in the special provisions for the relevant entries for UN2067 and UN2071 may be open to misinterpretation and/or confusion.

5. The explosives industry in Australia uses around 3 million tonnes of ammonium nitrate per annum in the manufacture of explosives and while the vast majority of this is a porous grade AN (approximate density 0.8g/cc) other AN types are employed, under the various names of technical, high density or fertilizer grade AN. All of these ANs are (virtually) pure AN. Many hundreds of thousands of tonnes of AN are imported into Australia from various countries to supplement the output from the five local AN manufacturing plants.

6. In previous discussions on this subject, AEISG has raised concerns with the proposed changes included in this proposal from Sweden as it relates to the classification of ammonium nitrate and the potential for it to be removed from the dedicated entries UN1942 and UN0222 with associated safety and/or security implications.

## Discussion

7. Currently there are only two entries in the UN Model Regulations for ammonium nitrate – UN0222 of Class 1 and UN1942 of Class 5.1. Both of these entries apply to (virtually) pure AN differentiated only by their content of combustible substances and/or their response to Test Series 2.

8. There are also two entries for ammonium nitrate based fertilizers – UN2067 of Class 5.1 and UN2071 of Class 9 which are subject to special provisions SP307 and SP193 respectively.

(a) SP307 limits the use of the UN2067 entry for ammonium nitrate based fertilizers to:

“This entry may only be used for uniform mixtures containing ammonium nitrate as the main ingredient within the following composition limits”.

While the ammonium nitrate content of such mixtures can exceed 90%, the provision indicates that this entry is for mixtures of various ingredients, with ammonium nitrate as the main ingredient, and not intended for virtually pure ammonium nitrate.

(b) SP193 limits the use of the UN2071 entry for ammonium nitrate based explosives to “not more than 70% ammonium nitrate”.

9. Paragraph 9(e) of the working document ST/SG/AC.10/C.3/2016/66 contains a proposal to change the wording of SP307.

It is proposed to change the initial sentence of SP307 from “This entry may only be used for uniform mixtures containing ammonium nitrate as the main ingredient” to “This entry may only be used for ammonium nitrate based fertilizers”

While inferring that this represents no change in practice, the document indicates that there would be no hindrance to classifying (virtually) pure AN of fertilizer grade (undefined?) as UN1942. Similarly, there would also be no hindrance to classifying (virtually) pure AN of any grade (including low density porous grade) as UN2067.

The outcome of this proposed change would be another entry for (virtually) pure ammonium nitrate i.e. UN2067, which would be indistinguishable from the existing entry UN1942.

Manufacturers and suppliers of ammonium nitrate would have the ability to classify their product as UN1942 or UN2067 as they saw fit, as any intended use would apply equally to both.

## **Position**

10. The potential risks associated with ammonium nitrate, from an accident or security scenario, are well known and it is considered imperative that regulators and emergency responders are kept well aware of what product is involved in any particular scenario. The use of a broad entry covering fertilizers for (virtually) pure ammonium nitrate is not considered appropriate for ongoing safety and security outcomes.

11. If there is a perceived need to distinguish between different grades of ammonium nitrate, e.g. low density, technical, fertilizer, then new entries should be considered, with defined criteria for each, to avoid confusion and maintain safety and security.

12. AEISG supports the intended clarification of the classification of ammonium nitrate based fertilizers and the inclusion of a new Section 39 in the Manual of Tests and Criteria, but has considerable concerns with the potential for added confusion and increased risks associated with duplicate and ill-defined entries for ammonium nitrate which flow from changes outlined in the current proposal.

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