

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

13 June 2016

Sub-Committee of Experts on the Transport of Dangerous Goods

Forty-ninth session

Geneva, 27 June-6 July 2016

Item 2 (i) of the provisional agenda

Explosives and related matters: miscellaneous

Clarification of the classification of ammonium nitrate based fertilizers – additional clarifications and discussion topics for possible amendments

Submitted by the expert from Sweden

1. On behalf of the *ad hoc* working group under IGUS¹, the expert from Sweden has submitted working document 29 on clarification of the provisions for the UN classification of ammonium nitrate (AN) based fertilizers to the 49:th session of the Sub-Committee of Experts on the Transport of Dangerous Goods (SCETDG). The core of that document is a draft proposal for a new Section 39 in the UN Manual of Tests and Criteria for the classification of such fertilizers, which includes a flow chart. As stated in the working document, and further detailed in the accompanying informal document INF.5, the intention is not to make any changes to the current classification provisions – merely to cast the already existing provisions in a clearer way.

2. Since the time of submission of the above documents, the working group has been made aware that a few additional clarifications may be needed to the proposed new Section 39, in order to bring it in line with the current provisions and the industrial practice. These are:

(a) Clarification that restrictions on incompatible materials in paragraph 39.3.6 apply to fertilizers with 90% or more AN according to Special Provision 307(a). It is therefore suggested to insert a new paragraph under Section 39.4 (Classification procedure) reading:

“39.4.X Materials that are incompatible with ammonium nitrate shall not be deliberately added to ammonium nitrate based fertilizers containing 90% or more ammonium nitrate. See also 39.3.6.”

Consequently, the last sentence of paragraph 39.3.6 would be removed.

(b) Change of the wording in Box D38 of the flow chart, since apart from calcium carbonate and/or dolomite and/or mineral calcium sulphate also some other inorganic materials are normally added to improve product quality, such as

¹ The International Group of experts on the explosion risks of Unstable Substances, see working document 29 to the 49:th session of SCETDG for further explanation.

ammonium sulphate (see Box D36). According to Special Provision 307(b), the AN-content should be allowed to be up to 80%, and it is therefore suggested to amend the text of Box D38 to read:

“Does it contain $\geq 20\%$ $\leq 80\%$ ammonium nitrate mixed with calcium carbonate and/or dolomite and/or mineral calcium ~~sulfate~~ sulphate?”

(c) Change of the initial wording of paragraph 39.4.3 to refer to classification instead of to transport, since there are other provisions than only the classification applicable to the actual transport of fertilizers. Suggested amendments to paragraph 39.4.3 are:

“39.4.3 Ammonium nitrate based fertilizers that do not fulfil the requirements for ~~transport under classification as~~ UN No. 2067, can be ~~transported under assigned another~~ suitable UN No. provided that the suitability for transport is demonstrated and this is approved by the competent authority. This may for instance be when contamination has occurred in e.g. an accident, so that the fertilizer can be transported under a suitable UN No. e.g. in Class 1 as approved by the competent authority.”

3. As also stated in working document 29, during the course of the work the working group has discovered some issues and potential possibilities for improvement when analysing the current provisions. The following items for amendments of the current provisions are suggested for discussion:

(a) Upon back-tracing the origin of the condition on excess nitrate in Box H22 of the flow chart, which implements a somewhat hidden provision in Section 38 of the UN Manual of Tests and Criteria, it is likely that it was not the intention to retain this text when Special Provision 193 was reformulated between the 11:th and 12:th revised editions of the UN Model Regulations. It is suggested to discuss whether this condition should be removed.

(b) Currently the condition that incompatible materials are not allowed if they can potentially negatively affect the stability of AN is applicable to fertilizers with 90% or more AN, see row 4 of the flow chart. It is suggested to discuss whether this condition should, for safety reasons, be applied also to fertilizers with a somewhat lower AN content.

(c) The question in Box D38 as amended through the suggestion under paragraph 2(b) above gives no lower limit on the amount of calcium carbonate and/or dolomite and/or mineral calcium sulphate. It is suggested to discuss whether such a limit could be useful and what it in that case should be (e.g. $\geq 10\%$), or whether another form of clarification is needed for this condition.

(d) Several exits in the flow chart lead to the answer “Not accepted for transport under UN2067” and a reference to paragraph 39.4.3. It is suggested to discuss what UN-numbers would be suitable for transport of AN-based fertilizers that do not fulfil the conditions for transport under UN2067, or whether a new UN-number should be devised.

4. This paper is merely intended as an aid in preparing for the discussions during the 49:th session of the SCETDG, and the listed items do not preclude the discussion of any further topics. The expert from Sweden welcomes any comments to the papers submitted on this matter, as well as any further items for discussion. It would facilitate a structured discussion if such contributions could be brought to the attention of that expert in advance of the meeting of the Sub-Committee, if possible.