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**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**

**Fifty-seventh session**

Geneva, 30 November-8 December 2020
Item 3 of the provisional agenda

**Listing, classification and packing**

 Clarification of the scope of special provision 354

 Transmitted by the expert from the Netherlands[[1]](#footnote-2)

 Introduction

1. At the fifty-fifth, fifty-sixth session and the online informal discussion in June/July, the TDG Sub-Committee discussed the request for a new UN number for cobalt dihydroxide powder. This substance has been proposed to be classified as a Class 6.1 packing group I substance, based on its inhalation toxicity properties (see informal documents INF.24 (55th session), INF.19 (56th session), INF.54 (56th session), ST/SG/AC.10/C.3/2020/21 and INF.5 (57th session)). The discussion also focused on whether special provision 354 should be assigned to this new UN number. Special provision 354 reads: “This substance is toxic by inhalation.”.

2. The intent of special provision 354 is to assign it to liquids that meet the criteria of: (i) having an LC50 lower than or equal to 1000 ml/m3 and a saturated vapour concentration greater than or equal to 10 LC50, or (ii) having an LC50 lower than or equal to 200 ml/m3 and a saturated vapour concentration greater than or equal to 500 LC50. Special provision 354 is used as a mean to identify and communicate the hazards of substances that are highly toxic via the inhalation route.

3. The current discussion on special provision 354 is its applicability to all physical states (to include dust), instead of only a liquid state. Assigning the special provision to dust that is toxic by inhalation would expand the scope of the special provision. Additionally, this would mean that an extensive review of the Dangerous Goods List should be carried out to assign special provision 354 to all other substances of Class 6.1 packing group I that have properties of inhalation toxicity or there is an well-defined exception for this particular substance (cobalt dihydroxide powder). Now, there are no other discussions at the TDG Sub-Committee concerning substances that have inhalation toxicity properties requiring special provision 354. Therefore, there is no indication that expanding the scope of special provision 354 is needed. Furthermore, the ongoing discussions on cobalt dihydroxide indicate that there is no reason to make an excemption for this substance.

 Background

4. The work on special provision 354 was carried out between 2006 and 2008. It began with a review to identify liquid substances in the Model Regulations that fulfilled the criteria set out in paragraph two of this document as toxic by inhalation and assign the appropriate portable tank instructions (see ST/SG/AC.10/C.3/2006/93, informal documents INF.73, INF.74 and INF.75 (30th session)). The second stage was that the amendments for the portable tank instructions led to subsequent changes for the packing instructions (see ST/SG/AC.10/C.3/2008/52 and report ST/SG/AC.10/C.3/66). For several substances listed in the documents mentioned above, more information on vapour pressure and acute inhalation (LC50) values were needed to decide whether they fulfil the criteria for classification in division 6.1. This information appeared later in documents ST/SG/AC.10/C.3/2008/49 and INF.8 (33rd session).

5. Additionally, based on data in documents ST/SG/AC.10/C.3/2008/49 and INF.8 (33rd session), the packaging and portable tank provisions of the substances mentioned in those documents had to be amended as well. In some cases, this also led to a change of classification based on the precedence of hazard characteristics (section 2.0.3 of the Model Regulations). At that point, it was proposed to assign a new special provision to substances which are toxic by inhalation, meeting the criteria set out in paragraph 2 above. The new special provision would be applicable to liquid substances that were agreed to be toxic by inhalation, as presented in all aforementioned documents (see ST/SG/AC.10/C.3/2008/87). The same rationale was applied to 7 isocyanates, which led to changes in the packaging and portable tank provisions and in some cases to a different classification (see ST/SG/AC.10/C.3/2008/88). And finally, the excepted quantity codes for several UN entries were proposed to be changed into “E0” (see ST/SG/AC.10/C.3/2008/107). All of these proposals were adopted (see report ST/SG/AC.10/C.3/68).

 Conclusion

6. Special provision 354 is therefore specifically developed for "toxic by inhalation" liquid substances that meet the criteria set out in paragraph two of this document. It is based on a thorough review of substances and consequential amendments for the classification, packing and portable tank provisions, and the excepted quantity code.

7. However, as special provision 354 is written, there is no specification on the physical state to which this special provision applies, i.e. whether it applies to all toxic by inhalation substances or only to toxic by inhalation liquids that concur with the abovementioned criteria. That makes it less straightforward to assign this special provision to the appropriate new UN entries. In order to improve the interpretation and assignment of special provision 354, the Netherlands proposes an amendment to the current wording as shown in paragraph 9 below.

8. The proposed changes will increase the clarity of the special provision and will ensure the appropriate use of special provision 354.

 Proposal

9. Amend special provision 354 as follows (new text is underlined):

“354 This substance is toxic by inhalation meeting the criteria of:

* having an LC50 lower than or equal to 1000 ml/m3 and a saturated vapour concentration greater than or equal to 10 LC50, or
* having an LC50 lower than or equal to 200 ml/m3 and a saturated vapour concentration greater than or equal to 500 LC50.”

1. 2020 (A/74/6 (Sect.20)) and Supplementary, Subprogramme 2.) [↑](#footnote-ref-2)