Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

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Proposals for amendments to RID/ADR/ADN: new proposals

Comments on the proposal regarding environmentally hazardous substances (ECE/TRANS/WP.15/AC.1/2010/30)

Transmitted by the European Chemical Industry Council (CEFIC)

Introduction

1. Classification of environmentally hazardous substances based on the second revised edition of GHS, as reflected in RID/ADR/ADN 2009 and the 34th amendment of the IMDG Code, is already a well established practice in industry. An important element of the classification procedure is the possibility to use classification results according to the EC-"supply & use" Directives 67/548/EEC and 1999/45/EC for determination of the transport classification. This is reflected in sub-section 2.2.9.1.10.5.2 which refers to the code letter "N" (classifying as "environmentally hazardous").

2. Because the classification of environmentally substances is not any longer limited to substances without any other risk, the Belgian proposal is the logical extension of the existing 2.2.9.1.10.5.2. This approach will result however in a number of practical problems due to

- Differences between the classification criteria in the EC-Directives and those in RID/ADR/ ADN and IMDG Code concerning bioaccumulation and chronic toxicity provisions (see APPENDIX 1 in this document for details and examples); and
- "Legal" classification as environmental hazardous good based on Annex VI, table 3.2 to EC-Directive 1272/2008/EC which replaced the Annex I of EC-Directive 67/548/EEC (see APPENDIX 2 in this document for details and examples) for substances not meeting the classification criteria of RID/ADR/ADN and IMDG Code.

3. Even if these differences occur, the current RID/ADR/ADN requires priority of the EC-directives classification by the "notwithstanding" provision of 2.2.9.1.10.5.2. This causes inconsistencies in intermodal transport, because this classification is not acceptable for non-European regulations,, e.g. for marking of shipments in a transport chain with sea transport according to IMDG Code.

4. In order to avoid these inconsistencies, classifications according to the RID/ADR/ADN classification criteria should have priority on classifications according to the EC-Directives. Our aim is total and global harmonization, but not harmonization with EU supply and use regulations at the expense of harmonization with modal transport regulations.

5. It should also be noted that the EC-Directives 67/548/EEC and 1999/45/EC will be repealed and replaced by the CLP Regulation 1272/2008/EC with effect from 1 June 2015. Till that time however transitional provisions in the CLP Regulation allow the classification according to these 2 Directives until 1 June 2015. This should be taken into account by including a reference to the EC-Directives as well as to the CLP-Regulation and removing the reference to the EC-Directives from ADR 2015 onwards.

Proposal

6. CEFIC therefore suggests modifying the Belgian proposal as follows:

"2.2.9.1.10.5 Substances or mixtures classified as environmentally hazardous substances (aquatic environment) on the basis of other criteria

If classification according to the criteria of 2.2.9.1.10.3 and 2.2.9.1.10.4 is not available, the classification “environmentally hazardous” shall [may] be adopted either according to the Directives 67/548/EEC and 1999/45/EC (risk phrases R50; R50/53; R51/53) or according to the Regulation 1272/2008/EC (category Acute1, Chronic1 or Chronic 2).

- If a substance, mixture or solution has been allocated such risk phrase(s) or category, it shall be classified as environmentally hazardous.
- If a substance, mixture or solution has not been allocated such risk phrase(s) or category, it shall not be classified as environmentally hazardous.

2.2.9.1.10.6 Assignment of substances classified as environmentally hazardous according to provisions 2.2.9.1.10.3, 2.2.9.1.10.4 or 2.2.9.1.10.5

2.2.9.1.10.6.1 Substances or mixtures classified as environmentally hazardous having any additional dangerous properties of the classes 1 to 8 and 9 with exception of that of UN 3077 and 3082 shall be assigned to the most appropriate entry in the dangerous goods list. These substances have the subrisk "environmentally hazardous".

Note: Different from other subrisks, the subrisk "environmentally hazardous" is not indicated in the dangerous goods table in column 5 and in the dangerous goods description sequence of 5.4.1.1.1 c). For the purpose of RID/ADR the subrisk "environmentally hazardous" is only indicated by marking according to 5.2.1.8, placarding according to 5.3.6 and declaration according to 5.4.1.1.18, if applicable.

2.2.9.1.10.6.2 Substances or mixtures classified as environmentally hazardous substances (aquatic environment), not otherwise classified under ADR shall be designated:

UN No. 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., packing group III; or

UN No. 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., packing group III ".

7. For ADN, the same should apply to 2.2.9.1.10.3 with appropriate renumbering.

Appendix 1

Comparison of the differences concerning bioaccumulation and chronic toxicity criteria between the Directives 67/548/EEC and 1999/45/EC, and the corresponding criteria in ADR/RID/ADN and IMDG Code

Criteria of RID/ADR/ADN 2.2.9.1.10.3 and IMDG Code 2.9.3.3.1

Category: Chronic 1

Acute toxicity:

96 hr LC50 (for fish) ≤ 1 mg/l and/or
48 hr EC50 (for crustacea) ≤ 1 mg/l and/or
72 or 96 hr ErC50 (for algae or other aquatic plants) ≤ 1 mg/l

and the substance is not rapidly degradable and/or the log Kow ≥ 4 (unless the experimentally determined BCF < 500).

Category: Chronic 2

Acute toxicity:

96 hr LC50 (for fish) >1 to ≤ 10 mg/l and/or
48 hr EC50 (for crustacea) >1 to ≤ 10 mg/l and/or
72 or 96 hr ErC50 (for algae or other aquatic plants) >1 to ≤ 10 mg/l

and the substance is not rapidly degradable and/or the log Kow ≥ 4 (unless the experimentally determined BCF < 500), unless the chronic toxicity NOECs are > 1 mg/l.

Criteria of 5.2.1.1 in Annex VI to DSD-Directive 67/548/EEC

R50 Very toxic to aquatic organisms and

R53 May cause long-term adverse effects in the aquatic environment

96 hr LC50 (for fish) < 1 mg/l
or 48 hr EC50 (for Daphnia) < 1 mg/l
or 72 hr IC50 (for algae) < 1 mg/l

and

- The substance is not readily degradable or
- The log Pow (log octanol/water partition coefficient) > 3.0 (unless the experimentally determined BCF <100).

R51 Toxic to aquatic organisms and

R53 May cause long-term adverse effects in the aquatic environment

96 hr LC50 (for fish) 1 mg/l < LC50< 10mg/l
or 48 hr EC50 (for Daphnia) 1 mg/l < EC50< 10mg/l
or 72 hr IC50 (for algae) 1 mg/l < IC50< 10 mg/l

and

- The substance is not readily degradable or
- The log Pow > 3.0 (unless the experimentally determined BCF < 100).

Examples of differences

Bioaccumulation (because of different POW-criteria):

Examples:

Pentane (CAS 109-66-0) log Kow 3.39
Hexane (CAS 110-54-3) log Kow 3.9

- "N" (R 51/53) according to 5.2.1.1 Annex VI of Directive 67/548/EEC
- Aquatic chronic category 2 according to Annex VI, table 3.1 of CLP 1272/2008/EC
- "Not environmentally hazardous" according to the criteria RID/ADR/ADN 2.2.9.1.10.3 and IMDG Code 2.9.3.3.1

Chronic toxicity (because of NOEC > 1 mg/L as "exit" criteria):

Example:

Dicycylopentyldimethoxysilane (CAS 404-370-8), a liquid substance with a L(E)C50 value of 8 mg/l and a NOEC value of 2.7 mg/l

- "N" (R 51/53) according to 5.2.1.1 Annex VI of Directive 67/548/EEC
- "Not environmentally hazardous" according to the criteria RID/ADR/ADN 2.2.9.1.10.3 and IMDG Code 2.9.3.3.1 because of NOEC > 1 mg/l

Appendix 2

Differences in classification based on Annex I of Directive 67/548/EEC, on Annex VI of Regulation 1272/2008/EC and on RID/ADR/ADN 2.2.9.1.10.3 and IMDG Code 2.9.3.3.1.

The entries in Annex VI, table 3.1 are the result of the use of the Annex VII translation table and are not based on data. Especially regarding the hazard for the environment this has lead to “over-classification”, because

(a) The combination N, R51/53 is translated as chronic category 2, although if based on data it would result in acute category 2, which is not relevant for the transport regulations.

(b) The assignment of N originated from worst case classification without data.

(c) The assignment of N originated from the more stringent criteria.

Example:

Isophorondiisocyanate (IPDI), (CAS 4098-71-9), LC/EC/IC50-value > 10 mg/l.

- “Not environmentally hazardous” according to RID/ADR/ADN 2.2.9.1.10.3 and IMDG Code 2.9.3.3.1.
- “Not environmentally hazardous" according to the criteria in 5.2.1.1 in Annex VI of Directive 67/548/EEC
- Legal classification “N” (R 51/53) according to Annex I of EU Directive 67/548/EEC and Annex VI of CLP-Regulation 1272/2008/EC