Aligning the metals section (Annex 9, section 7) to the generic environmental hazard guidance

Transmitted by the International Council on Mining and Metals (ICMM)

A. Introduction

The third revised edition of the GHS published in 2009 introduced the long-term aquatic hazard assessment scheme by amending Part 4 on Environmental hazards and Annex 9, Guidance on hazards to the aquatic environment.

However, the minerals and metals sector, during the drafting of the EU-CLP guidance to update the CLP Regulation towards the third revised edition of the GHS, noted that Annex 9, section 7 (Classification of metals and metal compounds) and Annex 10 (Guidance on Transformation/Dissolution of metals and metal compounds in aqueous media) are not yet adapted to include the long-term aquatic hazard assessment scheme.

B. Background

During the previous biennium of the UN GHS review, a validation study of the Transformation Dissolution Protocol (T/D protocol) as included in Annex 10 of the GHS was conducted by a Validation Management Group (VMG). The T/D protocol was designed to measure the rate and extent to which metals and poorly soluble metal compounds release metal ions, a key trigger in the classification strategy and scheme for metals and poorly soluble metal compounds (see Fig A9.7.1).

The VMG presented its report at the 16th meeting of the GHS Sub-Committee, including small suggestions to amend Annex 10. The report, as well as the proposed changes in Annex 10, was adopted and the updated Annex 10 was published by the 3rd revision.

In parallel with the VMG activities, the GHS Sub-Committee revised Part 4 and Annex 9 of the GHS introducing the long-term aquatic hazard assessment scheme. As a consequence of the parallel timing of the VMG and UN revision, neither section A9.7 on the classification of metals and metal compounds, nor Annex 10 could be amended for the 3rd revision to include this new long-term aquatic hazard classification strategy. Consequently, section A9.7 and Annex 10 are presently in conflict with part 4 and the remaining sections of
Annex 9, in that they do not include a long-term aquatic hazard classification strategy and guidance, or recommendations on how to measure this.

The drafting of EU-CLP guidance on metals and poorly soluble metal compounds to anticipate the introduction of the 3rd revised edition of the GHS demonstrated the clear need to change the strategy, as presented in Figure A9.7.1 (see annex) and the guidance in order to align the GHS metals section to the changes implemented by the long-term aquatic hazard assessment of the GHS Rev.3.

Given that many countries are presently or are planning to implement GHS Rev.3, industry is of the opinion that Annex 9, section 7 on the classification of metals and metals compounds and to a lesser extent Annex 10, should be updated as soon as possible to ensure alignment with part 4 and the remainder of Annex 9.

C. Potential way forward

Amending the strategy for metals and metal compounds to include the long-term aquatic assessment is feasible and not overly complex given that chronic toxicity data are typically abundantly available for metals and that the Transformation/Dissolution tool (T/D Protocol) can be applied in the same way as it is for the acute hazard assessment.

Industry, in cooperation with the European Chemicals Agency (ECHA), launched a redrafting of the EU guidance for the classification strategy, scheme and guidance for metals and metal compounds, including the T/D protocol and hopes to finalise the update in autumn through a review of the suggested guidance by an ECHA, Member States review Committee.

Industry would be pleased to provide the GHS Sub-Committee, this autumn, suggestions for updating Annex 9 section 7 as well as Annex 10 and would like to invite the Sub-Committee to consider this activity for inclusion under the 4th revised edition of the GHS.

D. Recommendation

ICMM would like to recommend GHS Sub-Committee’s experts to review Annex 9 section 7 on the classification of metals and metal compounds as well as Annex 10 on the Transformation/Dissolution of metals and metal compounds in aqueous media. This could be included under the 4th revised edition of the GHS, to ensure the classification strategy, guidance and tools on metals and metal compounds are in line with the long-term aquatic classification scheme introduced by third revised edition.
Annex

Figure A9.7.1 (GHS Rev.3): Classification strategy for metals and metal compounds

Metals or metal compounds:

- Yes → No classification
- No (metals) → Solubility of metal compound ≥ L(E)C₅₀ from available data
  - Yes → CLASSIFY for acute and chronic toxicity based on L(E)C₅₀ of metal ion corrected for molecular weight (see A9.7.5.1)
  - No or no data → No classification

- 24 hours transformation/dissolution streaming test shows that concentration ≥ L(E)C₅₀ of dissolved form
  - Yes → CLASSIFY for acute and chronic toxicity
  - No → 7 days transformation/dissolution full test data available

NO ( metals) → Concentration at low loading rate ≥ L(E)C₅₀ of dissolved form
  - Yes → CLASSIFY Acute 1
  - No → Concentration at medium loading rate ≥ L(E)C₅₀ of dissolved form
    - Yes → CLASSIFY Acute 2
    - No → Concentration at high loading rate ≥ L(E)C₅₀ of dissolved form
      - Yes → CLASSIFY Acute 3
      - No → CLASSIFY Chronic 4 unless transformation/dissolution full test shows that after 28 days concentration ≤ long-term NOECs of dissolved form

Also CLASSIFY Chronic 1 unless there is evidence of rapid partitioning and no bioaccumulation

Also CLASSIFY Chronic 2 unless:
1. There is evidence of rapid partitioning and no bioaccumulation;
2. Transformation/dissolution full test shows that after 28 days concentration at low loading ≤ long-term NOECs of dissolved form

Also CLASSIFY Chronic 3 unless:
1. There is evidence of rapid partitioning and no bioaccumulation;
2. Transformation/dissolution full test shows that after 28 days concentration at low loading ≤ long-term NOECs of dissolved form

This box applies only to metal compounds.