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 Globally Harmonized System of Classification and Labelling of Chemicals

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Health hazards

Chapters 3.2 (Skin corrosion/irritation) and 3.3 (serious eye damage/eye irritation)

Transmitted by the expert from Germany and the European Commission (DG Enterprise and DG Environment)

Introduction

1. During the current discussions in Europe to implement the GHS a number of discussion points were identified where further clarification might be helpful in GHS chapters 3.2 (Skin corrosion/irritation) and 3.3 (Serious eye damage/eye irritation) to avoid differences in the interpretation of the criteria.

Several of these points have already been raised in a previous informal paper submitted to the 13th session of the UNSCEGHS by the European Commission (UN/SCEGHS/14/INF.24). Some further points are addressed in the following document.

2. Consideration of all of these points can be taken into account without changing the classification criteria of the GHS in a way that the scope of the number of substances and mixtures being classified would be impacted. The main aim is to update the chapters with respect to editorial clarifications enhancing user-friendliness.

Background

General issues

3. The GHS classification strategy is such that it uses all relevant existing data for classification purposes. The GHS does not generally aim at giving recommendations or advice on testing strategies. However, in the classification criteria text of the chapters skin corrosion/irritation and serious eye damage/eye irritation there are several elaborations on advice on testing strategy. Similar advice is not found in the GHS for any other hazard class. It should be discussed whether the chapters skin corrosion/irritation and serious eye damage/eye irritation

would not be more user-friendly if the testing recommendations would be strongly reduced in the text on classification criteria. *(This point had also been addressed at the OECD workshop in Bern 2007: "For Skin Corrosion/Irritation and Serious Eye Damage/Eye Irritation [GHS Chapter 3.2], the flow chart 3.2.1 (and also 3.3.1) provides a mixture of test and classification strategy and is thus confusing for the self-classifier, e.g., there is no possibility to go for non-classification with a negative in vitro test.")*

4. Moreover, the contents of figures 3.2.1 and 3.3.1 are unique for the hazard classes skin corrosion/irritation and serious eye damage/eye irritation; analogous figures are not found in the GHS for any other hazard class. Moreover, there is a partial overlap of these figures with the decision logics of skin corrosion/irritation and serious eye damage/eye irritation. This impairs the user-friendliness of the GHS as paralleling information located at different text passages has to be taken into account in the classification process.

Detailed issues

5. The following questions have been raised in the discussions during the implementation of the GHS in the European Union with respect to figures 3.2.1 and 3.3.1:

(a) In both figures, the question is whether the steps 1a-c are needed; the strategy of data use (e.g. human data have precedence over animal data, if no data are available SAR may be applied) for classification is general advice and used for classification in each hazard class and does not need to be specifically mentioned in figures 3.2.1 and 3.3.1. Moreover, these points are already addressed in 3.2.2.2 and 3.3.2.4, respectively;

(b) Fig 3.2.1 indicates that even if a validated *in vitro* test for skin corrosion (in step 5) gives a negative result, then an *in vivo* skin corrosion test using one animal is required in step 7. This may be an unnecessary use of animals. The need for confirmatory *in vivo* testing should depend on whether a particular *in vitro* test can reliably identify non skin corrosives/irritants or not. Where an *in vitro* test can reliably identify both corrosives/irritants and non-corrosives/non-irritants confirmatory testing might not be necessary;

(c) The adequacy of the flow chart for eye irritation may be questioned in step 1c, as classification for eye irritation based on human evidence of skin irritation may not generally be automatically advised. Recent data should be discussed whether a valid correlation between these effects can still be assumed. For instance, there is a review publication which came to the conclusion that there is no general correlation of skin and eye irritation and vice versa (Gerner et al. 2000. Development of a decision support system for the introduction of alternative methods into local irritancy/corrosivity testing strategies. Creation of fundamental rules for a decision support system. Altern Lab Anim. 28(5):665-98.);

6. When classifying mixtures for eye (Category 2), according to the approach where additivity does not apply 'other irritant (Category 2) ingredients' have to be included in the process of classification (GHS table 3.3.4). It is not clear whether also skin irritants (Cat. 2) are to be subsumed in addition to the Category 2 eye irritants.

7. When classifying mixtures for eye (Category 2), there is no differentiation in mixture classification between Category 2A and 2B as it is the case for substances. If it is intended it might be clarified in the text.

8. It is not clear in which subcategory a corrosive substance should be classified if based on human data, extreme pH, in vitro or SAR results.

9. The term "structure- property relationship" is not commonly used and it is only used in the GHS chapters 3.2 and 3.3. It has got the same meaning like the more common term "structure-activity relationship". Instead, the term (Q)SAR is the term commonly used. The use of common terminology may be discussed.

10. The last sentence in 3.2.3.1.2 reads as follows: "If consideration of alkali/acid reserve suggests the substance or mixture may not be corrosive despite the low or high pH value, then further testing needs to be carried out to confirm this, preferably by use of an appropriate validated *in vitro* test." This sentence is only included in the chapter on mixture classification criteria. It is not included in the substance classification criteria. Thus, it is not clear whether it also relates to substance classification.

Several further points related to GHS chapters 3.2 and 3.3 had been addressed at the OECD workshop in Bern 2007:

11. For Skin corrosion/irritation (GHS Chapter 3.2), which are the criteria when the additivity principle for corrosivity applies/does not apply? *(Note: The same applies for serious eye damage/eye irritation).*

12. For Eye irritation (GHS Chapter 3.3), based on individual animal scores, classification was sometimes ambiguous, depending on the endpoint outcomes for certain cases; eye irritation criteria are provided in GHS in terms of a 3-animal test. GHS does not specify how to classify for existing data based on tests with 4, 5 or 6 animals. *(Note: The same applies for skin irritation).*

Proposal

13. It is proposed that the Sub-Committee considers whether an editorial revision and clarification of the points raised above relating to GHS chapters 3.2 and 3.3 may be prioritized as an issue to be discussed in the next biennium.

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