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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 Globally
Harmonized System of Classification
and Labelling of Chemicals

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Item 3 of the provisional agenda

HAZARD COMMUNICATION ISSUES

Revision of Annexes 1, 2 and 3 of the GHS: Combined hazard statements

Transmitted by the representative from the United Kingdom on behalf of
the informal correspondence group¹

Introduction

1. At its fifteenth session (July 2008), the Sub-Committee considered informal document UN/SCEGHS/15/INF.26, which presented on behalf of the correspondence group on the revision of annexes 1, 2 and 3, suggestions for improving the workability of the GHS hazard and precautionary statements.

2. Following extremely useful discussions in the meeting and in a break-out session, this document sets out specific proposals to enable combination and reduction in redundancy among the hazard statements in the GHS (see annex to this document). The overall objective of the proposals is to enable improved hazard communication on labels, without reduction in relevant information.

¹ In accordance with the programme of work of the Sub-Committee for 2007-2008 approved by the Committee at its third session (refer to ST/SG/AC.10/C.4/24, Annex 2 and ST/SG/AC.10/34, para. 14).

3. This document also outlines a proposed work plan for the informal correspondence group on Annexes 1, 2 and 3 for the next biennium.
4. The outcome of the informal correspondence group's work on precautionary statements will be presented in a separate document.

Background

5. Along with the pictogram and signal word, hazard statements are an integral part of the GHS label.
6. The issue to be addressed in this document is that in practice numerous hazard statements are often triggered by a given substance or mixture, with the consequence that the label can become crowded and key hazard communication messages are lost. Attention is focused on health and environmental hazard statements. No changes are proposed to the physical hazard statements.
7. Due to the structured nature of the hazard statements, there is relatively little scope for rationalisation. Nevertheless, given that space on labels is at a premium, proposals which are relatively limited in scope are still valuable in helping achieve effective hazard communication.

Combined hazard statements

8. Probably the greatest scope for reducing the amount of hazard "wordage" on labels comes from introducing the possibility of combined hazard statements.
9. It is proposed that combined hazard statements should be allowed only within equivalent severity of hazard categories (so, for example, for acute toxicity only statements including "Toxic" can be combined), and within the same hazard classes (thus, a statement such as "toxic if swallowed, and to aquatic life" would not be permitted.)
10. Where a combined hazard statement is used, it should replace the separate component statements and the exact form of words specified should be used. Nevertheless, use of combined hazard statements is suggested to be optional rather than mandatory, leaving competent authorities to decide whether or not to require or allow the use of combined hazard statements, or to leave the choice to the manufacturer/supplier.

Examples

11. Many substances and mixtures are classified for acute toxicity by two or more routes of exposure. For example the classification for a chemical may include:

Acute toxicity (oral), category 1:		"Fatal if swallowed" (H300)
Acute toxicity (dermal), category 1:	"	Fatal in contact with skin" (H310)
Acute toxicity (inhalation), category 1:		"Fatal if inhaled" (H330)

12. To facilitate hazard communication and reduce the number of hazard statements on the label it would be appropriate to have a combined hazard statement:

"Fatal if swallowed, in contact with skin, or if inhaled"

13. There are also many substances and mixtures that have properties leading to classification with the following two hazard classes and categories:

Skin corrosion/irritation, category 2:	“Causes skin irritation” (H315)
Serious eye damage/eye irritation, category 2B:	“Causes eye irritation” (H320)

In this case an appropriate hazard statement would be: “Causes skin and eye irritation”

14. As a final example, substances and mixtures may be classified for specific target organ toxicity, single exposure, category 3, in relation to either respiratory tract irritation, narcotic effects, or both. The relevant hazard statements are:

“May cause respiratory irritation” (H335)
“May cause drowsiness or dizziness” (H336)

15. In cases where both statements are triggered, it would be appropriate to have a combined hazard statement:

“May cause respiratory irritation, and drowsiness or dizziness”

16. A full list of proposed combined hazard statements is given in Annex 1.

Precedence rules

17. There are some circumstances when more than one hazard statement is triggered, and the information content of one of the statements is clearly subsumed by that of another. In these cases, it is proposed that some specific “precedence rules” be adopted, allowing omission of the redundant hazard statement when its message is covered by another statement.

18. As with combined hazard statements, it is proposed that the precedence rules should have the status of guidance, with competent authorities being given the discretion whether or not to apply the precedence rules, or whether to leave the choice to the manufacturer/supplier.

Examples

19. A simple “precedence” rule could be added for the class, hazardous to the aquatic environment. In this class, classification may be for an acute or chronic hazard, or both. The criteria for the chronic categories combine those for the corresponding acute categories with additional criteria for long lasting effects. This is reflected in the hazard statements, e.g.:

Hazardous to the aquatic environment (acute) category 1:
“Very toxic to aquatic life” (H400)
Hazardous to the aquatic environment (chronic) category 1:
“Very toxic to aquatic life with long lasting effects” (H410)

20. A substance or mixture that is chronically toxic to the aquatic environment in categories 1, 2, or 3 would therefore also be acutely toxic to the aquatic environment in categories 1, 2 and 3 respectively. Therefore if a substance or mixture is required to have the statement H410, H400 can be omitted. Similarly, if H411 is assigned, H401 can be omitted, and if H412 is assigned, H402 can be omitted.

21. A second precedence rule can be added for the categories Skin corrosion/irritation 1A, 1B and 1C, and serious eye damage/eye irritation, category 1. A substance or mixture could be classified in either of these categories or both. However, if a substance is classified in both, the following hazard statements would be triggered:

H314 – “Causes severe skin burns and eye damage”

H318 – “Causes serious eye damage”

22. In this case, the second of these statements clearly appears redundant. Therefore, it is proposed that if H314 is triggered, H318 can be omitted.

Proposal for work plan for the next biennium

23. At its thirteenth session (July 2007), the Sub-Committee agreed that the work of the correspondence group should be divided into two Work streams. Work stream 1 aims to develop as appropriate combined hazard statements and combined precautionary statements, and will include proposals to eliminate current redundancies in some precautionary statements. Work stream 2 aims to improve the presentation of Annexes 1 to 3 of the GHS, taking into account the intended audiences, uses and purposes of the GHS. The Sub-committee agreed that Work stream 1 should be given priority.

24. The current status of the work of the correspondence group is as follows:

- (a) Work within work stream 1 on hazard statements is complete, subject to the views of the Sub-Committee, and has resulted in the suggestions in this paper;
- (b) Work within work stream 1 on precautionary statements remains ongoing. An information document summarising progress to date will be presented to the Sub-Committee at the December 2008 meeting;
- (c) Work on work stream 2 has not yet commenced.

25. It is proposed that during the next biennium, the informal correspondence group continue work on work streams 1 and 2 above. Specifically, it is proposed that as a first priority the group should continue its work on developing approaches to reducing redundancy among precautionary statements, and subsequently, continue with work stream 2, on improving the presentation of Annexes 1 to 3.

26. The Sub-committee is invited to consider and if appropriate, endorse the above work plan for the informal correspondence group for the next biennium.

Annex

Proposal for amendment to chapter 1.4 and Annex 3 of the GHS

Chapter 1.4

1.4.10.5.3.3 Amend to read as follows:

“1.4.10.5.3.3 Precedence for allocation of hazard statements

All assigned hazard statements should appear on the label, except where otherwise provided in this subsection. The competent authority may specify the order in which they appear.

However, to avoid evident duplication or redundancy in the information conveyed by hazard statements, the following precedence rules may be applied:

- (a) If the statement H410 “**Very toxic to aquatic life with long lasting effects**” is assigned, the statement H400 “**Very toxic to aquatic life**” may be omitted;
- (b) If the statement H411 “**Toxic to aquatic life with long lasting effects**” is assigned, the statement H401 “**Toxic to aquatic life**” may be omitted;
- (c) If the statement H412 “**Harmful to aquatic life with long lasting effects**” is assigned, the statement H402 “**Harmful to aquatic life**” may be omitted;
- (d) If the statement H314 “**Causes severe skin burns and eye damage**” is assigned, the statement H318 “**Causes serious eye damage**” may be omitted.

Competent authorities may decide whether to require use of the above precedence rules, or to leave the choice to the manufacturer/supplier.

Table A3.1.2 in Annex 3 includes specified combinations of hazard statements. Where a combined hazard statement is indicated, the competent authority may specify whether the combined hazard statement or the corresponding individual statements should appear on the label, or may leave the choice to the manufacturer/supplier.”

Annex 3**Section 1**

Add two new paragraphs A3.1.2.3 and A3.1.2.4 to read as follows:

“A3.1.2.3 In addition to individual hazard statements, a number of combined hazard statements are given in Table A3.1.2. Where a combined hazard statement is indicated for two or more hazard statements, the competent authority may specify whether the combined hazard statement or the corresponding individual statements should appear on the label, or may leave the choice to the manufacturer/supplier.

A3.1.2.4 The alphanumerical codes for the combined statements are constructed from the codes for the individual statements that are combined, conjoined with the plus (+) sign. For example, H300 + H310 indicates that the text to appear on the label is “**Fatal if swallowed or in contact with skin**”.”

Table A3.1.2 Add the following new entries at the end of current table A3.1.2, after the row for H373:

Code (1)	Health hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H300 + H310	Fatal if swallowed or in contact with skin	Acute toxicity, oral (chapter 3.1) and acute toxicity dermal (chapter 3.1)	1, 2
H300 + H330	Fatal if swallowed or if inhaled	Acute toxicity, oral (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	1, 2
H310 + H330	Fatal in contact with skin or if inhaled	Acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	1, 2
H300 + H310 + H330	Fatal if swallowed, in contact with skin or if inhaled	Acute toxicity, oral (chapter 3.1), acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	1, 2
H301 + H311	Toxic if swallowed or in contact with skin	Acute toxicity, oral (chapter 3.1) and acute toxicity dermal (chapter 3.1)	3
H301 + H331	Toxic if swallowed or if inhaled	Acute toxicity, oral (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	3
H311 + H331	Toxic in contact with skin or if inhaled	Acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	3

Code (1)	Health hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled	Acute toxicity, oral (chapter 3.1), acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	3
H302 + H312	Harmful if swallowed or in contact with skin	Acute toxicity, oral (chapter 3.1) and acute toxicity dermal (chapter 3.1)	4
H302 + H332	Harmful if swallowed or if inhaled	Acute toxicity, oral (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	4
H312 + H332	Harmful in contact with skin or if inhaled	Acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	4
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled	Acute toxicity, oral (chapter 3.1), acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	4
H303 + H313	May be harmful if swallowed or in contact with skin	Acute toxicity, oral (chapter 3.1) and acute toxicity dermal (chapter 3.1)	5
H303 + H333	May be harmful if swallowed or if inhaled	Acute toxicity, oral (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	5
H313 + H333	May be harmful in contact with skin or if inhaled	Acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	5
H303 + H313 + H333	May be harmful if swallowed, in contact with skin or if inhaled	Acute toxicity, oral (chapter 3.1), acute toxicity, dermal (chapter 3.1) and acute toxicity, inhalation (chapter 3.1)	5
H315 + H320	Causes skin and eye irritation	Skin corrosion/irritation (chapter 3.2) and serious eye damage/eye irritation (chapter 3.3)	2 (skin)/2A (eye)
H335 + H336	May cause respiratory irritation, and drowsiness or dizziness	Specific target organ toxicity, single exposure; Respiratory tract irritation (chapter 3.8), and specific target organ toxicity, single exposure; Narcotic effects (chapter 3.8)	3