

**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  
(Seventh session, 14-16 July 2004,  
agenda item 2)

**UPDATING OF THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND  
LABELLING OF CHEMICALS (GHS)**

Water-Activated Toxicity (irritation and corrosion)  
of solid substances/mixtures  
Transmitted by the expert from Sweden

At the 6<sup>th</sup> session of the UN SCE GHS, a proposal of amendment to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) concerning substances/mixtures, which in contact with water release toxic gases was presented (ST/SG/AC.10/C.4/2003/9). As some concern was expressed about this proposal, a Correspondence Group was set up to work further on this issue.

It should also be recognized that certain solid substances or mixtures may become toxic (corrosive) in contact with water without the release of gases. The presence of water may derive from different sources. Substances/mixtures may cause local effects on the skin, such as irritation or corrosion, due to contact with sweat, or even penetrate the dermal layers causing systemic toxicity. Mucous membranes of the airways may also be a source of water. Inhalation of dust of substances that become irritating or corrosive in contact with water may thus cause effects in the airways. Two examples of substances that may have to be considered in these respects are cement and iron (ferrous) sulphate. The corrosive action of wet cement is a well known occupational problem.

**Proposal:**

Our proposal is that this question should be looked into during the next biennium 2005-2006.

***Proposed Classification: Corrosive/Irritating In Contact With Water***

Substances and preparations which in contact with water or damp air may cause concern as a result of irritating or corrosive action to skin or mucous membranes based on either:

- practical observation after handling or use, or
- relevant evidence concerning their predicted effects on the skin.

The following risk phrases currently in the EU legislation have been considered

**R29 Contact with water liberates toxic gas**

For substances and preparations which in contact with water or damp air, evolve very toxic/toxic gases in potentially dangerous amounts, e.g. aluminium phosphide, phosphorus pentasulphide.

**R34 Causes burns**

- if, when applied to healthy intact animal skin, full thickness destruction of skin tissue occurs as a result of up to four hours exposure, or if this result can be predicted.

**R35 Causes severe burns**

- if, when applied to healthy intact animal skin, full thickness destruction of skin tissue occurs as a result of up to three minutes exposure, or if this result can be predicted.

**R38 Irritating to skin**

Substances and preparations which cause significant inflammation of the skin which persists for at least 24 hours after an exposure period of up to four hours determined on the rabbit according to the cutaneous irritation test method cited in Annex V.

**R66 Repeated exposure may cause skin dryness or cracking**

For substances and preparations which may cause concern as a result of skin dryness, flaking or cracking but which do not meet the criteria for R38 based on either:

- practical observation after normal handling and use, or
  - relevant evidence concerning their predicted effects on the skin.
-