

## 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 Transport of Dangerous Goods

Thirty-six session

Geneva, 30 November – 09 December 2009

Item 10 of the agenda

### ISSUES RELATING TO THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS)

Comments to ST/SG/AC.10/C.3/2009/15 and INF.3 (Netherlands)

Transmitted by CEFIC

#### **Introduction**

1. CEFIC would like to point out that the proposed changes in Chapter 2.8 will cause an unjustified increase of restrictions for the transport of dangerous goods without noticeable safety benefits.
2. Moreover, it should be noticed that the current classification criteria of GHS are still under discussion as the programme of work for the GHS Sub-Committee for the biennium 2009-2010 includes the following items (see UN/SCEGHS/18/INF.3).
  - *Editorially revise GHS Chapters 3.2 and 3.3 to improve clarify and enhance user-friendliness in the application of the criteria;*
  - *Examine whether particular criteria need further alignment/adjustment with respect to the internal consistency of Chapters 3.2 and 3.3 and develop proposals for any minor necessary amendments;*
3. Even if these are only editorial changes, they may have an impact on the interpretation of the text. The TDG Sub-Committee should wait for this final revision before deciding on the NL proposal.

#### **General comments**

4. The objectives and protection targets of the transport and supply/use sectors show differences and their existence should not be denied.
5. At present UN GHS, as known, is not yet implemented globally and sufficient experience is missing. There are serious discrepancies between unvalidated classifications which are

overruled by measures like national substance lists or a building block approach. Many countries did not implement GHS yet. In countries, which have already established GHS-based national legislation, varying approaches are in a testing process, which again may lead to more discrepancies. In the EU, REACH/CLP will also have an impact on classifications in the near future.

6. Especially in cases where GHS does not distinguish between 1A, 1B or 1C, industry sees major problems using the proposed approach. This e.g. is the case for extreme pH-values linked to category 1, which covers all 3 packing groups, i.e. I, II, and III. Therefore, this approach is not helpful though the pH-value may give an indication for the degree of danger. However in many cases the pH-value is not a scientifically founded classification criterion (see also ST/SG/AC.10/C.3/2009/50 and ST/SG/AC.10/C.3/2009/49, which are both supported by the chemical industry).

Example:

Household multi -purpose descaler

Classified ingredients:

≥ 10 - < 20% Citric acid EU: Xi, R36; GHS skin: Cat.2 (irritant)

< 5 % Non-ionic surfactants EU: Xi, R36/38; GHS skin: -

Physical state: liquid (aqueous solution)

pH-value: 1,5

Current classification for the mixture EU: -

7. According the decision logic: GHS skin Cat.1 ⇒ TDG class 8, PG I (PG I because of the lack of differentiation between 1A, 1B, 1C in the classification based on the pH-value).

8. Even if there were valid in vitro test data available, the pH-value would overwrite this information, according to table 3.2.1 of the GHS.

9. This example clearly shows that the classification will become too severe or that unnecessary test efforts will be required for many substances and mixtures. Due to the lacking 1A, 1B or 1C subdivisions, PG I might have to be applied without further testing. But PG I will have very severe consequences for most products e.g. no possibility of use of IBC, very small packing in air transport, prohibition for passenger aircraft, strong storage conditions, no acceptance in the market. These consequences are in conflict with the fact that most of these classifications are not reflecting the real hazard potential and offer no increase in safety. As a further example for the practical impact of this issue a newly released SDS for a household cleaner can be found in the annexed document. This product does not contain any corrosive component but it was classified as R 35 due to an extreme pH. As a consequence the transport classification is Class 8 PG II, showing a non corrosive hazard inducer. Herewith attention is drawn to a problem, which will become more common if companies choose the worst-case for classifications in order to avoid additional testing.

10. CEFIC already presented UN/SCETDG/35/INF. 33 at the previous meeting of the Sub-Committee, providing an alternative proposal to integrate the extreme pH-value criterion into the transport regulations in an appropriate way. This document should be taken into account in the discussion.

11. Another issue is that criteria taken from GHS need to be translated into the “language of transport”, e.g. categories (e.g. 1A, 1B, 1C) into packing groups (I, II, III). Hazard classes in GHS (Part 2, 3, 4) vary from hazard classes in transport (class 1 – 9). If the transport classification by type of hazard is obscured, even trained personnel will get confused and this is likely to decrease transport safety. Today there is a well-known global system established which gives easy and clear advice to all persons engaged in the transport of dangerous goods. As training is mandatory for all these persons, which means millions of people world-wide, any unjustified change of the current system might cause a loss of safety due to irritation and confusion, especially in those countries, where GHS has not been implemented yet.

**Conclusion:**

12. In principle, the chemical industry welcomes a harmonised classification system, but at this point in time, where only few experiences with the new GHS classification system exist, it seems to be too early to consider the across the board adoption of all GHS classification criteria for transport. Each criterion should be carefully checked whether it is applicable for transport. When more countries will have introduced GHS and a broader understanding and knowledge regarding the classification according to GHS is available, only then should a decision be taken regarding transport regulations. The current introduction of GHS shows that there are many country specific issues, which still need to be looked at (e.g. list of chemicals with legally binding or not legally binding classifications vs self classification).

13. The registration according to REACH in Europe is another aspect. The new inventory will include more chemicals and thus provide more data, which may allow for more harmonised classifications.

14. Summary: before the UN TDG criteria for class 8 are further harmonized with GHS, as proposed by the NL, all the resulting consequences for the transport operations (transport prohibitions or changes to operational requirements/types of containment, etc.) need to be carefully examined to avoid unnecessary changes or restrictions and therefore we welcome the proposal made by the Netherlands in their INF.17.

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# Safety Data Sheet according to (EC) No 1907/2006 - ISO 11014-1

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V001.0

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## 1. Identification of the substance/preparation and of the company/undertaking

Trade name:

Intended use:

Cleaners for industrial metal working

Company name:

E-mail address of person responsible for Safety Data Sheet:

Emergency information:

## 2. Hazards identification

The product is classified as hazardous within the meaning of the valid (EU) preparation directive.  
R35 Causes severe burns.

## 3. Composition / information on ingredients

Declaration of ingredients according to (EC) No 1907/2006:

Hazardous components CAS-No.	EINECS ELINCS	content	Classification
Tripotassium orthophosphate 7778-53-2	231-907-1	5 - 10 %	Xi - Irritant; R36/38
Sodium xylenesulphonate 1300-72-7	215-090-9	5 - 10 %	Xi - Irritant; R36/37/38
Silicic acid, potassium salt >1,6<=2,6, solution 1312-76-1	215-199-1	2 - 5 %	Xi - Irritant; R38, R41
Fatty alcohol, C10-12, EO/PO 68154-97-2		1 - 5 %	N - Dangerous for the environment; R51/53
Diethylenetriaminepentaacetate pentasodium salt 140-01-2	205-391-3	5 - 10 %	Xi - Irritant; R36

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.

Substances without classification may have community workplace exposure limits available.

**Declaration of ingredients according to Detergent Regulation 648/2004/EC**

5 - 15 %	phosphates anionic surfactants
< 5 %	non-ionic surfactants

**4. First aid measures**

**Inhalation:**

Move to fresh air, consult doctor if complaint persists.

**Skin contact:**

Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. Seek medical attention from a specialist.

**Eye contact:**

Immediately flush eyes with water (for 10 minutes), put on a bandage with sterile gauze, see an oculist.

**Ingestion:**

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting. Immediate medical treatment necessary.

**5. Fire fighting measures**

**Combustion behaviour:**

Non-flammable (aqueous solution). In case of fire toxic gases can proceed after evaporation of water and further heating of the product.

**Suitable extinguishing media:**

All common extinguishing agents are suitable.

**Extinguishing media which must not be used for safety reasons:**

None known

**Special protection equipment for firefighters:**

Wear protective equipment.  
Wear self-contained breathing apparatus.

**Additional information:**

Cool endangered containers with water spray jet.

**6. Accidental release measures**

**Personal precautions:**

Avoid contact with skin and eyes.  
See advice in chapter 8

**Environmental precautions:**

Do not empty into drains / surface water / ground water.

**Clean-up methods:**

Remove with liquid-absorbing material (sand, peat, sawdust).  
Dispose of contaminated material as waste according to item 13.

**7. Handling and storage**

**Handling:**

When diluting, always stir slowly the product into standing water.  
Avoid skin and eye contact.  
The workplace should be equipped with an emergency shower and eye-rinsing facility.  
See advice in chapter 8

**Storage:**

- Store only in the original container.
- Frost-sensitive
- Keep container tightly sealed and store in a frost free place.
- Keep container in a well ventilated place.
- Do not use packing made of metal.
- Store in a cool, frost-free place.
- Must be stored in a room with spill collection facilities.
- Do not store together with strong acids.

**8. Exposure controls / personal protection**

**Components with specific control parameters for workplace:**

- Valid for
  - EEC MSDS-States
- Basis
  - Germany - Occupational Exposure Limits

contains no components

**Engineering controls:**

- Ensure good ventilation/suction at the workplace.

**Respiratory protection:**

- if there is atomisation

**Hand protection:**

Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Polychloroprene (CR;  $\geq 1$  mm thickness) or natural rubber (NR;  $\geq 1$  mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polychloroprene (CR;  $\geq 1$  mm thickness) or natural rubber (NR;  $\geq 1$  mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**

- Goggles which can be tightly sealed.

**Skin protection:**

- Protective clothing that covers arms and legs.

**General protection and hygiene measures:**

- Keep away from food, beverages and animal feed.
- Wash hands before work breaks and after finishing work.
- Do not eat, drink or smoke while working.
- The workplace should be equipped with an emergency shower and eye-rinsing facility.

**9. Physical and chemical properties**

**General characteristics:**

- |            |   |
|------------|---|
| Appearance | liquid<br>clear<br>Colorless, up to,<br>yellowish |
| Odor:      | no valuation                                      |

**Phys./chem. properties:**

- |   |                                 |
|---|---------------------------------|
| pH-value<br>(20 °C (68 °F); Conc.: 100 % product) | 11,5 - 12,5                     |
| Flash point                                       | Not applicable                  |
| Density   | 1,215 - 1,255 g/cm <sup>3</sup> |

(20 °C (68 °F))  
Solubility (qualitative) fully miscible  
(20 °C (68 °F); Solvent: Water)  
VOC content 0 %  
(1999/13/EC)

### 10. Stability and reactivity

**Conditions to avoid:**

No decomposition if used according to specifications.

**Materials to avoid:**

Reacts with acids: Heat released.

**Hazardous decomposition products:**

None if used for intended purpose.  
In case of fire toxic gases can be released.

### 11. Toxicological information

**General toxicological information:**

The classification as corrosive is due to the extreme pH.

**Oral toxicity:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**Dermal toxicity:**

The product causes corrosion on skin and mucous membranes.

**Eye irritation:**

very corrosive

### 12. Ecological information

**Persistence and degradability:**

**Degradation of surfactants**

The biodegradability of the surfactants contained in the product is in accordance with the requirements of the EU Detergent Regulation (EC/648/2004).

The surfactants contained in the products are primary biodegradable to at least 90% on average.

**Ecotoxicity:**

Hazardous components CAS-No.	Species	Exposure time	Value type	Value
Fatty alcohol, C10-12, EO/PO 68154-97-2	Ide, silver or golden orfe (Leuciscus idus)	96 h	LC 50	3,2 mg/l

**General ecological information:**

Do not empty into drains / surface water / ground water.

Locally harmful for aquatic and landliving organisms because of high pH and corrosive properties.

**Other remarks:**

If acidic or alkaline products are discharged into wastewater installations care must be taken that the discharged wastewater has a pH in the range pH 6 ... 10, as pH variations could cause disorders in wastewater channels and biological sewage treatment plants. The local discharge regulations take precedence.

### 13. Disposal considerations

**Product disposal:**

In consultation with the responsible local authority, must be subjected to special treatment.

**Waste code(EWC):**

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.  
EWC/EAK 070608

**Recommended cleaning agents:**

Clean the packaging with water.

**14. Transport information**

**Road transport ADR:**

Class: 8  
Packaging group: II  
Classification code: C5  
Hazard ident. number: 80  
UN no.: 3266  
Label: 8  
Technical name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium silicate)

**Railroad transport RID:**

Class: 8  
Packaging group: II  
Classification code: C5  
Hazard ident. number: 80  
UN no.: 3266  
Label: 8  
Technical name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium silicate)

**Inland water transport ADN:**

Class: 8  
Packaging group: II  
Classification code: C5  
Hazard ident. number: 80  
UN no.: 3266  
Label: 8  
Technical name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium silicate)

**Marine transport IMDG:**

Class: 8  
Packaging group: II  
UN no.: 3266  
Label: 8  
EmS: F-A ,S-B  
Seawater pollutant: -  
Proper shipping name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium silicate)

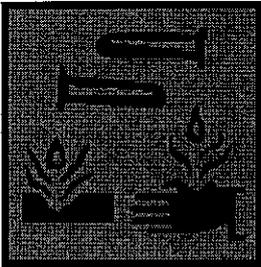
**Air transport IATA:**

Class: 8  
Packaging group: II  
Packaging instructions (passenger): 808  
Packaging instructions (cargo): 812  
UN no.: 3266  
Label: 8  
Proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (Potassium silicate)

## 15. Regulations - classification and identification

### Indication of danger:

C - Corrosive



### Risk phrases:

R35 Causes severe burns.

### Safety phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### Additional information:

The classification as corrosive is due to the extreme pH.

### National regulations/information (Germany):

WGK:

WGK = 2, water endangering product. Classification according to the mixture rules in German VwVwS regulation annex 4 from 27.July 2005.

Storage class VCI:

8B

## 16. Other information

The labelling of the product is indicated in Section 15. The full text of the R-phrases indicated by codes in this safety data sheet are as follows:

R36 Irritating to eyes.

R36/37/38 Irritating to eyes, respiratory system and skin.

R36/38 Irritating to eyes and skin.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.