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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**  
(Sixth session, 10-12 December 2003,  
agenda item 5)

**COOPERATION WITH OTHER INTERNATIONAL ORGANIZATIONS**

**Comments on proposals concerning definition of hazard characteristics  
of hazardous waste covered by the Basel Convention**

**Transmitted by the experts from Finland, Germany and the United States of America**

**Introduction**

1. The Sub-Committee decided at its fifth session (7-9 July 2003) to set up a correspondence group (Germany, United States, Finland) to prepare draft comments on the proposals to define hazardous characteristics of certain categories of waste within the Basel Convention, for consideration at its sixth session. These hazardous characteristics were discussed at the first session of the Open-Ended Working Group (OEWG 1) of the Basel Convention (28 April-2 May 2003). Some draft proposals are now available for comments on the website of the Basel Convention:

<http://www.basel.int/meetings/oewg/oewg1/home.htm>.

2. The draft comments of the correspondence group (see letter, Annex) are based on a suggestion that the Parties to the Basel Convention may wish to consider closer coordination with the GHS in the context of defining the hazardous characteristics of wastes under the Basel Convention while satisfying the needs of both international instruments. The OEWG has requested comments on various draft proposals for hazard characteristics by the end of September 2003; however, we understand that development of the particular hazard characteristics of interest to the GHS is in the early stages with further comment opportunities in the future, so this issue is ripe for discussion at this sixth session.

3. At the same time the Sub-Committee may take the opportunity to comment on some general issues concerning the relationship of classification and hazard communication, as provided in the GHS, and as noted in Annex VA of the Basel Convention.

## General issues

4. Article 4.7 (b) of the Basel Convention states:

*“Furthermore, each party shall:*

*...*

*(b) Require that hazardous wastes and other wastes that are subject of a transboundary movement be packaged, labelled, and transported in conformity with generally accepted and recognized international rules and standards in the field of packaging, labelling, and transport, and that due account is taken of relevant internationally recognized practices;”*

5. Point 13 of Annex V A on ‘Information to be provided on notification’ requires information to be provided

*“on designation, physical description of the waste including Y-number and UN number and its composition (see note 5) and information on any special handling requirements including emergency provisions in case of accidents.”*

6. Note 5 to point 13 indicates an explanation of composition of waste:

*“the nature and concentration of the most hazardous components, in terms of toxicity and other dangers presented by the waste both in handling and in relation to the proposed disposal method”.*

7. Similarly point 8 of Annex V B on ‘Information to be provided on the Movement Document’ requires information to be provided on

*“general description of the waste (physical state, proper UN shipping name and class, UN number, Y number and H number as applicable.”*

8. It is understood that so far the only international rules and standards applied to identification, packaging and labelling of wastes are UN Model Regulations for Transport of Dangerous Goods (Orange Book). At this time, not all hazard aspects of chemical wastes are covered by the Transport Regulations.

9. The situation in the context of international recommendations for classification and labelling of chemicals recently changed with the adoption of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) by the Committee, and with the UN Economic and Social Council resolution 2003/64 of 25 July 2003.

10. The GHS describes for chemicals the general principles for hazard identification (i.e., type of hazard, such as acute toxicity, eye irritation, carcinogenicity, etc.), criteria for classification by hazard category, and hazard communication elements for most of the known hazard end points (GHS “hazard classes”). The classification criteria are based on the intrinsic properties of chemicals and do not take site-specific exposure situations or specific environmental conditions into consideration. The GHS is not intended to harmonize risk assessment procedures or risk management measures.

11. The GHS was developed in accordance with the mandate set forth in Chapter 19 of Agenda 21: Programme of Action for Sustainable Development, adopted in 1992 at the UN Conference on Environment and Development (UNCED). The World Summit for Sustainable Development (2002) recommended GHS implementation by 2008.

12. The system of transport of dangerous goods is intending to apply the classification criteria of the GHS to certain hazards. At present the hazards covered are explosive, oxidising and flammable hazards; gases under pressure; reactive substances (e.g., self-heating/reactive); acute toxicity; corrosivity to the skin; corrosivity to metals; and dangerous for the aquatic environment for some transport modes.

13. The scope of the GHS is wider and covers hazards that are not within the scope of the transport regulations. These are hazards like acute toxicity at higher LD50-value cut-offs, severe eye damage, skin and eye irritation, target organ systemic toxicity (TOST) after single and repeated exposure, sensitising effects on the skin and respiratory organs, carcinogenicity, mutagenicity, reproductive toxicity, and both acute and chronic effects in the aquatic environment.

14. The Sub-Committee understands that the hazard characteristics of concern in the Basel Convention also have a broader scope than the transport regulations, e.g., H11 (delayed or chronic toxicity). Information on all hazards would obviously be needed for waste management purposes.

15. Hazard identification for chemical wastes may sometimes be difficult and problematic as wastes are often mixtures of chemicals with compositions that are not well known, and which vary over time and by waste generator. The Basel Convention contains lists of wastes for the purposes of the Convention's transboundary movement procedures; however, in the absence of defined hazard characteristics, the basis for listing the particular waste streams on Annexes VIII and IX is assumptions about their hazardousness. Further, when the hazard characteristics of waste are studied, often the only information available is the hazardousness of the original pure substances or chemical mixtures that are components of the waste. Chemicals will, in the future, be classified in accordance with the GHS, and hazard information will be available on that basis. It is also recognised that the hazards of wastes due to the impurities created during the use of the chemical will need to be considered for hazard identification.

#### Suggestion

16. The Sub-Committee suggests that the experts and secretariats of the Basel Convention and the SCEGHS may wish to explore the relationship between hazard characterization of wastes under the Basel Convention and the GHS classification system, and identify possible links between them. The Sub-Committee recognizes that special attention would need to be paid to problems in hazard identification and classification of chemical wastes.

#### **Definitions of hazard characteristics in the Basel Convention under discussion**

17. At its December 2002 meeting, the Conference of Parties to the Basel Convention adopted interim guidelines on hazardous characteristic H12, ecotoxicity, that took into account the criteria developed in the GHS.

18. The Basel Convention OEWG is now in the process of developing other hazard characteristics on Annex III, namely:

- H6.2 *infectious substances*
- H10 *liberation of toxic gases in contact with air or water*
- H11 *toxic (delayed or chronic)*
- H13 *capable, by any means, after disposal, of yielding another material, e.g., leachate, which possesses any of the characteristics listed above.*

19. The United Kingdom is preparing a proposal for H6.2, *infectious substances* (Room Document prepared by United Kingdom for the first session of the Open-ended Working Group (OEWG 1)).

20. The Netherlands is preparing a proposal for H10, *liberation of toxic gases in contact with air or water* which is not yet ready.

21. The United States is preparing a proposal for H11, *toxic (delayed or chronic)* (UNEP/CHW/OEWG/1/INF/8).

22. The Basel Convention Secretariat is preparing a proposal (UNEP/CHW/OEWG/1/INF/9) for H13, *capable, by any means, after disposal of yielding another material, e.g., leachate which possesses any of the characteristics listed above.*

### **Proposed initial comments of the Sub-Committee on definitions of hazard characteristics**

#### **H 12 Ecotoxic characteristics**

23. For H12, *ecotoxic*, guidelines already introduced in the December 2002 Basel Convention meeting seem to apply the same parameters, i.e. toxicity, degradability and bioaccumulation, as the GHS classification criteria for chemicals which are considered to be hazardous to the aquatic environment.

#### **H 6.2 Infectious substances**

24. The scope of the GHS does not include materials other than chemicals. Infectious substances are thus outside the scope of the Sub-Committee's work programme and there is no need to comment on the proposal for H6.2, *infectious substances*. As transport regulations do cover infectious substances, the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) may wish to comment.

#### **H 10 Liberation of toxic gases**

25. The proposal to be prepared by the Netherlands for H10, *liberation of toxic gases in contact with air or water*, is not yet available. The Sub-Committee may wish to note that GHS classification criteria for substances and mixtures which in contact with water release toxic/corrosive gases (water-activated toxicity), are nearing completion and are expected to be considered by the Sub-Committee in December 2003. The proposal for classification criteria and hazard communication elements was developed by the Organization for Economic Cooperation and Development (OECD).

26. The Sub-Committee may wish to recognise that the H10 characteristic on liberation of toxic gases may involve substances other than water (like acids), and thus may not be limited to cases where toxic gases are released in contact with water.

#### Suggestion

27. The Sub-Committee may wish to propose that GHS classification criteria for substances and mixtures which in contact with water release toxic/corrosive gases be considered by the Basel Convention OEWG during its deliberations on the further definition of characteristic of H10, *liberation of toxic gases in contact with air or water*.

#### **H 11 Toxic (delayed or chronic) characteristics**

28. The Sub-Committee may wish to note the following:

Definition of the characteristic H11, *toxic (delayed or chronic)*, involves a range of hazards including carcinogenicity. Within the GHS several hazard classes could be considered to cover delayed or chronic

toxic effects, namely hazard classes for

- target organ systemic toxicity (TOST – single exposure,
- target organ systemic toxicity (TOST) – repeated exposure,
- carcinogenicity,
- mutagenicity,
- reproductive toxicity,
- respiratory and skin sensitisation.

#### Suggestion

29. It is suggested that Basel Convention and Sub-Committee experts work together to explore the possible links between GHS criteria and the definition of delayed or chronic toxicity under Basel Convention characteristic H11, and to develop appropriate explanatory notes. In this context it may also be useful to consider and clarify the scope of hazard characteristic H 6.1 and its relationship to H 11 and GHS definitions. The Sub-Committee may wish to recommend that GHS definitions and criteria be considered also in terms of their potential usefulness for the Basel Convention. The secretariat and experts of the Sub-Committee may wish to express their willingness to assist as appropriate, if the Open Ended Working Group of the Basel Convention so wishes, to develop explanations of the relationship between the hazard characteristics in the Basel Convention and hazard classes in the GHS.

#### **SUMMARY**

30. It is suggested that the experts and secretariats of the Basel Convention and the SCEGHS explore the relationship and possible links between ongoing work under the Basel Convention and the GHS, recognizing that special attention should be paid to problems in hazard identification and classification of chemical wastes, since these were not specifically considered in the development of the GHS. The Sub-Committee may wish to urge the Basel Convention experts and secretariat to consider possible options for use of the different GHS elements in the framework of Basel Convention.

31. The Sub-Committee may wish to recommend that definitions and criteria developed under the GHS be considered for the Basel Convention. The Secretariat and experts of the SCEGHS would like to express their willingness to assist as appropriate, if the Open Ended Working Group of the Basel Convention so wishes, and to work together to achieve a coherent system satisfying the needs of both international instruments.

32. A draft letter conveying these views to the Basel Convention OEWG is attached as Annex and may be used as the basis for further communication by the secretariat.

## Annex

### Draft letter to the Executive Secretary of the Basel Convention

Dear [...]:

I am writing to express the interest of the United Nations Economic and Social Council's Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS Sub-Committee) in working with the appropriate body of the Basel Convention to explore the possible links between your work in further defining hazard characteristics under the Basel Convention and the elements of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

The GHS Sub-Committee is a relatively new group created under the Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labelling of Chemicals. Its "sister" group is the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee), which serves as the GHS focal point for physical hazards and will be implementing the GHS in the transport sector. At its fifth session (7-9 July 2003), the GHS Sub-Committee was pleased to review the documents submitted by the Basel Convention secretariat for consideration and to hear a presentation on your ongoing work. The GHS Sub-Committee [The UNECE Transport Division, which provides secretariat services to both sub-committees]\* would be happy to provide similar background information and introduce the GHS to a future meeting of the Basel Convention group.

The GHS is a voluntary agreement, adopted by international consensus of government representatives and stakeholder groups, that is designed to provide a common and coherent approach to the definition of chemical hazards and standardized hazard communication tools for appropriate use in the transport, workplace, and consumer use sectors. Development of the GHS was mandated under Chapter 19 of the Agenda 21 Programme of Action adopted at the UN Conference on Environment and Development (Rio, 1992). The World Summit on Sustainable Development has recommended GHS implementation by 2008 (Johannesburg, 2002).

[In its resolution 64/2003 of 25 July 2003, the Economic and Social Council invited all Governments to take the necessary steps to implement the GHS through their national legislation as soon as possible and no later than in 2008. It also invited, inter alia, United Nations programmes to promote the implementation of the GHS and, where relevant; to amend their respective legal international instruments addressing transport safety, work safety, consumer protection or the protection of the environment so as to give effect to the GHS through such instruments; to provide feed-back to the GHS Sub-Committee.]\*

The GHS includes hazard identification/classification criteria for acute and chronic human health effects, physical hazards, and hazards to the aquatic environment. The GHS Sub-Committee believes that the work done in developing these GHS criteria may be of assistance to the OEWG as you seek to define hazard characteristics listed in Annex III of the Basel Convention for chemical wastes, and would like to suggest that the experts and secretariats of the Basel Convention and the GHS Sub-Committee consider exploring this possibility further.

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*Addition suggested by the secretariat.*

The GHS Sub-Committee understands that discussions are underway on several Annex III hazard characteristics. The GHS may be relevant to some though not all of these. Specifically,

- With respect to H12, ecotoxicity, the GHS Sub-Committee notes that the Conference of Parties to the Basel Convention has adopted interim guidelines that took GHS aquatic toxicity criteria into account;
- The GHS currently includes classification criteria defining carcinogenicity and a number of other hazard classes that might be considered in the context of further defining hazard characteristic H11, delayed or chronic toxicity. It may be useful to consider these criteria and to have our experts work together to explore and develop appropriate explanatory notes regarding the relationship between the hazard classes in the GHS and hazard characteristics under the Basel Convention;
- Development of GHS criteria for water-activated toxicity (chemicals which emit toxic gases in contact with water) is nearing completion, and may be of interest as you begin consideration of the broader H10 hazard characteristic, liberation of toxic gases.

In summary, the Sub-Committee appreciates the opportunity to offer these comments for your consideration and would like to express our willingness to provide you with additional information and to assist as appropriate, if the Open Ended Working Group of the Basel Convention so wishes, in working together on approaches to achieve a coherent system that will satisfy the needs of both international instruments.

Sincerely,

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