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Sub-Committee of Experts on the Transport of Dangerous Goods

Fifty-first session

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Item 10 (e) of the provisional agenda
Issues relating to the Globally Harmonized System of Classification and Labelling of Chemicals: miscellaneous

Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals

Thirty-third session

Geneva, 10-12 July 2017
Item 4 (a) of the provisional agenda
Implementation of the GHS: development of a list of chemicals classified in accordance with the GHS

Assessing the potential development of a global list of chemicals classified in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals

Transmitted by the expert from the United States on behalf of the informal correspondence group on the global list of the GHS Sub-Committee*

Introduction

1. As GHS has been implemented around the world, a number of competent authorities have adopted mandatory or permissive lists of chemical classifications in order to facilitate compliance. However, it has been noted that the classifications on these lists do not necessarily agree, which leads to differing hazard communication. In addition, many countries/regions lack a classification list. These considerations have prompted the Sub-Committee of Experts on the GHS (GHS Sub-Committee) to explore the possibility of developing a global list of GHS classifications for chemicals, which could provide guidance to countries/regions lacking a classification list, help to

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, paragraph 14).

standardize classifications worldwide, and conserve resources by avoiding duplicative classification work.

2. After long debate, the GHS Sub-Committee developed a set of guiding principles that would govern the development of such a list, which would ensure that classifications be developed transparently, with stakeholder input, from publicly available and electronically accessible data, and be non-binding. (See ST/SG/AC.10/C.4/48, Annex III.)

Pilot classification project

3. To explore the process that might be used and the resources that might be required to prepare a global classification list, the GHS Sub-Committee conducted a pilot classification project in conjunction with the Organisation for Economic Co-operation and Development (OECD). Under the pilot program, three sponsors (European Chemicals Agency (ECHA), Russian Federation and the United States of America) each took the lead for one of three selected substances (Dimethyltin dichloride (DMTC, CAS No. 753-73-1), Dicyclopentadiene (DCPD, CAS No. 77-73-6), and Di-n-butyl phtalate (DBP, CAS No. 84-74-2)). Each sponsor prepared a report containing proposed hazard classifications and labelling elements for its substance. In addition, the sponsor prepared an annex to the report containing more detailed information about the studies reviewed for the substance.

4. To provide transparency and provide a platform for stakeholder input, these documents were posted on a website hosted by the OECD. All interested parties were allowed access to the website and invited to provide comments. Sponsor countries revised their documents based on the comments and provided responses to the comments. Outstanding comments were resolved by way of teleconference. Sponsors and commenters reported, on a standardized resource tracking form, the time spent in preparing the draft of hazard classifications, in reviewing and revising them, and in participating in the teleconferences. The OECD prepared a report summarizing the process, resources used, the final draft classifications obtained, and learnings from the project. (See ST/SG/AC.10/C.4/2016/18; INF.4 (GHS Sub-Committee, thirty-second session)). All of these documents, including templates developed to support the process, are also publically available on the OECD website.

5. The pilot project was successful in that non-binding consensus classifications were reached for each of the three chemicals; however, the pilot showed that significant resources and a sustained commitment would be necessary were the GHS Sub-Committee to develop a global classification list in this way.

6. The GHS Sub-Committee has not yet decided to develop a global classification list, and has not adopted the classifications arrived at through the OECD process. Instead, the GHS Sub-Committee is currently following up on concerns raised during the pilot process and is considering the next steps it should take as it explores the potential of developing a global classification list. The correspondence group has compiled a comparison of existing classifications in the European Union (ECHA's Risk Assessment Committee (RAC) opinions) and Japan and will prepare a list of common classifications based on this comparison.

Request for input from other international bodies

7. Concerns have been raised in the GHS Sub-Committee that classifications it reaches may impact other bodies that develop regulations and/or guidance involving

hazardous chemicals, including the International Maritime Organisation (IMO) and the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee).

8. In particular, the Secretariat noted that the draft acute toxicity classification reached for DCPD differs from the current classification under Transport of Dangerous Goods Regulations. The pilot project consensus classification designates DCPD as acute toxicity (inhalation) category 2, while the Model Regulations currently treats DCPD as a flammable liquid, packing group III, without subsidiary hazard. Based on the pilot project consensus classification, the TDG Sub-Committee may wish to review and consider how this might impact the Model Regulations.

9. Summaries of the draft classifications reached in the pilot project for DMTC, DCPD, and DBP are attached in the annex to this document. The full classification reports and supporting data assessments are available in informal document INF.4/Add 1, 2, and 3 (GHS Sub-Committee, thirty-second session).

10. As the GHS Sub-Committee continues to consider a process for developing a global classification list, the Global List informal correspondence group is interested in feedback from other organizations who may be interested in this project on:

(a) Any potential impacts these draft classifications may present, and ways in which such potential impacts could be overcome or addressed;

(b) The consultation process used in the pilot classification project (e.g., did the pilot realize its objects (consensus, transparency and stakeholder input)?; are there ways to streamline the process?); and

(c) Any other issues the GHS Sub-Committee should be aware of if it develops a global classification list.

Annex

DCPD proposed classification and labelling

DCPD proposed classification and reason for not proposing a classification for a hazard class

GHS chapter	Hazard class	Proposed classification (Hazard class and category; Hazard statement code(s))	Proposed specific concentration limits SCL(s) and M-factor(s)	Reason for no proposed classification*
2.1	**Explosives**	Not classified		Hazard class not applicable
2.2	**Flammable gases**	Not classified		Hazard class not applicable
2.3	**Aerosols**	Not classified		Hazard class not applicable
2.4	**Oxidising gases**	Not classified		Hazard class not applicable
2.5	**Gases under pressure**	Not classified		Hazard class not applicable
2.6	**Flammable liquids**	Flam. Liq. 3; H226 *for liquid DCPD* *(see Note 1)*		
2.7	**Flammable solids**	Not classified		Data lacking
2.8	**Self-reactive substances**	Not classified		Hazard class not applicable
2.9	**Pyrophoric liquids**	Not classified		Hazard class not applicable
2.10	**Pyrophoric solids**	Not classified		Hazard class not applicable
2.11	**Self-heating substances**	Not classified		Hazard class not applicable
2.12	**Substances which in contact with water emit flammable gases**	Not classified		Hazard class not applicable
2.13	**Oxidising liquids**	Not classified		Hazard class not applicable
2.14	**Oxidising solids**	Not classified		Hazard class not applicable
2.15	**Organic peroxides**	Not classified		Hazard class not applicable
2.16	**Corrosive to metals**	Not classified		Data lacking
2.17	**Desensitized explosives**	Not classified		Hazard class not applicable
3.1	**Acute toxicity** **- via oral route**	Acute Tox. 3; H301		
	- via dermal route	Acute Tox. 5; H313		
	- via inhalation route	Acute Tox. 2; H330		
3.2	**Skin corrosion/irritation**	Skin Irrit. 2; H315		
3.3	**Serious eye damage/eye irritation**	Not classified		Data conclusive but not sufficient for classification
3.4	**Respiratory sensitisation**	Not classified		Data lacking
	Skin sensitisation	Not classified		Data conclusive but not sufficient for classification
3.5	**Germ cell mutagenicity**	Not classified		Data conclusive but not sufficient for classification
3.6	**Carcinogenicity**	Not classified		Data lacking
3.7	**Reproductive toxicity**	Repr.2; H361 (developmental toxicity)		
3.8	**Specific target organ toxicity-single exposure**	STOT SE 3; H335, H336		
3.9	**Specific target organ toxicity-repeated exposure**	STOT RE 2; H373		
3.10	**Aspiration hazard**	Asp. Tox. 1; H304		
4.1	**Hazardous to the aquatic environment**	Aquatic Acute 1; H400 Aquatic Chronic 2; H411	M=1	
4.2	**Hazardous to the ozone layer**	Not classified.		Hazard class not applicable

* ***Note 1:*** *Above 32.2 °C/90° F, the pure substance is a liquid as also commercial grades with purity < 97% at room temperature*

DCPD proposed labelling

Pictogram code(s): GHS02 (Flame), GHS06 (Skull and crossbones), GHS08 (Health hazard), GHS09 (Environment)

Signal word: Danger

Hazard statement code(s):

H226: Flammable liquid and vapour [*for liquid DCPD*]
H301: Toxic if swallowed
H304: May be fatal if swallowed and enters airways
H313: May be harmful in contact with skin
H315: Causes skin irritation
H330: Fatal if inhaled
H335: May cause respiratory irritation
H336: May cause drowsiness and dizziness
H361: Suspected of damaging the unborn child
H373: May cause damage to organs through prolonged or repeated exposure via oral and inhalation routes of exposure
H400: Very toxic to aquatic life
H411: Toxic to aquatic life with long lasting effects

Supplemental information:

According to 1.4.10.5.3.1 (a) if the skull and crossbones applies, the exclamation mark should not appear.

According to 1.4.10.5.3.2 if the signal word “Danger” applies, the signal word “Warning” should not appear.

DMTC draft classification and labelling

DMTC proposed classification and reason for not proposing a classification for a hazard class

GHS Chapter	Hazard class	Proposed classification (Hazard class and category; Hazard statement code(s))	Proposed specific concentration limits (SCL(s)) and M-factor(s)	Reason for no proposed classification*
2.1	**Explosives**	No classification		Data lacking
2.2	**Flammable gases**	No classification		Hazard class not applicable
2.3	**Aerosols**	No classification		Hazard class not applicable
2.4	**Oxidising gases**	No classification		Hazard class not applicable
2.5	**Gases under pressure**	No classification		Hazard class not applicable
2.6	**Flammable liquids**	No classification		Hazard class not applicable
2.7	**Flammable solids**	No classification		Data conclusive but not sufficient for classification
2.8	**Self-reactive substances**	No classification		Data lacking
2.9	**Pyrophoric liquids**	No classification		Hazard class not applicable
2.10	**Pyrophoric solids**	No classification		Data lacking
2.11	**Self-heating substances**	No classification		Data conclusive but not sufficient for classification
2.12	**Substances which in contact with water emit flammable gases**	No classification		Data lacking
2.13	**Oxidising liquids**	No classification		Hazard class not applicable
2.14	**Oxidising solids**	No classification		Data lacking
2.15	**Organic peroxides**	No classification		Hazard class not applicable
2.16	**Corrosive to metals**	No classification		Data lacking
2.17	**Desensitized explosives**	No classification		Hazard class not applicable
3.1	**Acute toxicity - via oral route**	Acute Tox. 3; H301		
	- via dermal route	Acute Tox. 3; H311		
	- via inhalation route	Acute Tox. 2; H330		
3.2	**Skin corrosion/irritation**	Skin Corr. 1; H314		
3.3	**Serious eye damage/eye irritation**	Eye Dam. 1; H318		
3.4	**Respiratory sensitisation**	No classification		Data lacking.
	Skin sensitisation	No classification		Data inconclusive.
3.5	**Germ cell mutagenicity**	No classification		Data conclusive but not sufficient for classification.
3.6	**Carcinogenicity**	No classification		Data inconclusive.
3.7	**Reproductive toxicity**	Repr. 2; H361 (developmental toxicity)		
3.8	**Specific target organ toxicity-single exposure**	No classification		Data conclusive but not sufficient for classification.
3.9	**Specific target organ toxicity-repeated exposure**	STOT RE 1; H372 (nervous system, immune system)		
3.10	**Aspiration hazard**	No classification		
4.1	**Hazardous to the aquatic environment**	Aquatic Acute 3; H402 Aquatic Chronic 3; H412		
4.2	**Hazardous to the ozone layer**	No classification		Hazard class not applicable

DMTC proposed labelling

Pictogram code(s): GHS05 (corrosion), GHS06 (skull and crossbones), GHS08 (health hazard)

Signal word: Danger

Hazard statement code(s):

H301: Toxic if swallowed
H311: Toxic in contact with skin
H330: Fatal if inhaled
H314: Causes severe skin burns and eye damage
H318: Causes serious eye damage
H361: Suspected of damaging the unborn child (developmental)
H372: Causes damage to organs (nervous system, immune system)
H412: Harmful to aquatic life with long lasting effects

Supplemental information:

The additional hazard statement “Corrosive to the respiratory tract” is suggested to be added in the labelling based on the classification of DMTC as acutely toxic by inhalation and as skin corrosive

DBP proposed classification and labelling

DBP proposed classification and reason for not proposing a classification for a hazard class

GHS chapter	Hazard class	Proposed classification (Hazard class and category; Hazard statement code(s))	Proposed specific concentration limits SCL(s) and M-factor(s)	Reason for no proposed classification
2.1	**Explosives**	No classification		Hazard class not applicable
2.2	**Flammable gases**	No classification		Hazard class not applicable
2.3	**Aerosols**	No classification		Hazard class not applicable
2.4	**Oxidising gases**	No classification		Hazard class not applicable
2.5	**Gases under pressure**	No classification		Hazard class not applicable
2.6	**Flammable liquids**	No classification		Hazard class not applicable
2.7	**Flammable solids**	No classification		Hazard class not applicable
2.8	**Self-reactive substances**	No classification		Hazard class not applicable
2.9	**Pyrophoric liquids**	No classification		Hazard class not applicable
2.10	**Pyrophoric solids**	No classification		Hazard class not applicable
2.11	**Self-heating substances**	No classification		Hazard class not applicable
2.12	**Substances which in contact with water emit flammable gases**	No classification		Hazard class not applicable
2.13	**Oxidising liquids**	No classification		Hazard class not applicable
2.14	**Oxidising solids**	No classification		Hazard class not applicable
2.15	**Organic peroxides**	No classification		Hazard class not applicable
2.16	**Corrosive to metals**	No classification		Hazard class not applicable
2.17	**Desensitized explosives**	No classification		Hazard class not applicable
3.1	**Acute toxicity - via oral route**	No classification		Data conclusive but not sufficient for classification
	- via dermal route	No classification		Data inconclusive
	- via inhalation route	No classification		Data conclusive but not sufficient for classification
3.2	**Skin corrosion/irritation**	No classification		Data conclusive but not sufficient for classification
3.3	**Serious eye damage/eye irritation**	No classification		Data inconclusive
3.4	**Respiratory sensitisation**	No classification		Data lacking
	Skin sensitisation	No classification		Data inconclusive
3.5	**Germ cell mutagenicity**	No classification		Data inconclusive
3.6	**Carcinogenicity**	No classification		Data inconclusive
3.7	**Reproductive toxicity**	Repr. 1B: H360 May damage fertility and unborn child		
3.8	**Specific target organ toxicity-single exposure**	No classification		Data inconclusive
3.9	**Specific target organ toxicity-repeated exposure**	No classification		Data conclusive but not sufficient for classification
3.10	**Aspiration hazard**	No classification		Data lacking
4.1	**Hazardous to the aquatic environment**	Acute 1: H400 Chronic 1 H410	M=1 M=1	
4.2	**Hazardous to the ozone layer**	No classification		Data conclusive but not sufficient for classification

DBP proposed labelling

Pictogram code(s): GHS08 (health hazard), GHS09 (Environment)

Signal word: Danger

Hazard statement code(s):

H360: May damage fertility or the unborn child

H410: Very toxic to aquatic life with long lasting effects

Supplemental information:

[No recommendation]