

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

Ninth session, 11-13 July 2005
Item 3 (c) of the provisional agenda

Hazard communication issues

Codification of Precautionary Statements (PS)

Transmitted by the expert from Australia

Introduction

1. This INF paper describes work done to codify the GHS precautionary statements. During the course of this work a number of precautionary statements were identified which may require editorial changes.

Background

2. While the GHS provides an extensive classification framework for determining a collection of pictograms, signal words, hazard statements and precautionary statements that can be applied to a substance or mixture, less work has been done to identify how this potentially complex collection of hazard information should be best displayed on a product label.

3. Some of the questions that have arisen in developing hazard-based labelling guidance for Australia are as follows:

- a. Should a label always include all of the pictograms, hazard statements and precautionary statements that are indicated as a result of the chemical's GHS classification? It is noted that the GHS provides some guidance on allocation of symbols and signal words at 1.4.10.5.3.1 and 1.4.10.5.3.2.
- b. Should the communication of some "more serious" hazard statements be given precedence over other "less serious" hazard statements when (a) there is insufficient label space to include all the information indicated by the full classification and/or (b) the inclusion of multiple hazard statements may divert attention from the critical and immediate hazard?
- c. Are there situations where a chemical that meets the criteria for multiple hazard classes may be assigned a series of precautionary statements that are potentially in conflict or overlapping and how should such situations be dealt with on a label?

A further question that has arisen in discussions with Australian regulators and industry groups that operate within regulatory frameworks that take a risk-based approach to labelling is: To what extent

should the authorised use of a chemical, its packaging or other factors that may moderate the intrinsic hazard, be taken into account when determining the hazard communication elements included on the label?

4. If it is accepted that there may be situations where it is reasonable to use some discretion in managing the application of hazard classification information onto the label, then it is preferable that this process be done in a rigorous and consistent way. The development of a hierarchy of GHS classification information could be used as a tool to manage the information conveyed on a label, whilst reflecting the principles and the intent of the GHS.

5. Recent work in Australia has centred on the codification of the precautionary statements. This is considered to be an important first step in assessing how the different statements may complement or conflict with each other, and whether any measure of priority can be assigned to them.

Discussion

6. The list of codified precautionary statements is shown at Annex 1. The basis for the codification is set out below.

7. Each type of precautionary statement was allocated a two letter code (ie. PP for prevention statements, PR for response statements, PS for storage statements and PD for disposal statement).

8. The statements within each type (PP, PR, PS or PD) were allocated to categories based on the similarity of the information conveyed in the statements. The categorisation information is included in the attached spreadsheet and shows how the groupings were determined. Within each grouping, statements were ordered, based on either seriousness or generality, with the more serious or broader statements listed first within each grouping, depending on the type of statement.

9. Each statement in the ordered list was then assigned a two digit numeral which in combination with the two letter code forms a unique identifier (eg PR04, PP22 etc). The numbering for each grouping was commenced at 1, 10, 20, 30... etc. If related statements are added to the system in the future then they can be inserted into the list at the appropriate place using the unassigned numbers. This is an important consideration as the precautionary statements may be refined as implementation experience is accumulated.

10. Where two or more statements are only relevant to one classification category and are always used in combination, they were grouped under a single code number. For example, the response statements for cryogenics were grouped together and assigned the code of PR50, as shown below:

PR50 Thaw frosted parts with lukewarm water.
 Do not rub affected area.
 Seek immediate medical attention/advice.

11. The numbering system described above differs from the proposal presented in ST/SG/AC.10/C.4/2005/1 - *Numbering of GHS Hazard Statements*, where the numbering system is continuous. The disadvantage of a continuous numbering system is that it is difficult to place new statements in the list in such a way that they are grouped with related statements.

12. Problems could also arise where hazard statements are grouped (for example, Fatal if swallowed, fatal in contact with skin and fatal if inhaled) and given the same number. It is suggested that these statements be separated and given unique numbers.

13. During the codification of the precautionary statements the following points were noted where we

believe some clarification or editorial revision may be required:

- a. The following two "response" statements are very close in meaning and differ by the variation of a single word. It is recommended that these statements be replaced by a single statement.

PR37 If skin irritation occurs, get medical advice/attention (Skin corrosion/irritation chapter 3.2 hazard category 3)

PR38 If skin irritation occurs, seek medical advice/attention (Skin corrosion/irritation chapter 3.2 hazard category 2)

- b. The following two "response" statements are very close in meaning and differ only by the inclusion of a single word. It is recommended that these statements be replaced by a single statement.

PR01 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. (Acute toxicity- Inhalation chapter 3.1 hazard category-1 and 2)

PR02 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. (Acute toxicity- Inhalation chapter 3.1 hazard category 3 and 4 and skin corrosion/irritation chapter 3.2 hazard category 1A to 1C)

- c. The response statement PR34 "Brush off loose particles from skin and immerse in cool water/wrap **in** wet bandages" (Pyrophoric solids - chapter 2.10 hazard category 1) should be written as "If on skin brush off loose particles from skin and immerse in cool water/wrap **with** wet bandages" to be consistent with other statements (eg PR33 – "If on skin immerse in cool water/wrap with wet bandages").

Conclusions

14. Consideration should be given to editing the specific precautionary statements highlighted in this paper.

15. Further guidance on the development of a hierarchy of GHS label elements is needed from SCEGHS. If members are supportive of developing a hierarchy, Australia would consider putting a formal paper to a subsequent meeting. A number of other members have expressed interest in collaborating on this project.

Annex 1 Codified Precautionary Statements

(a) Prevention statements (Coded PP)

<u>Code</u>	<u>Statement (Prevention)</u>
PP01	Obtain special instructions before use.
PP02	Do not handle until all safety precautions have been read and understood.
PP10	Keep away from <i>ignition sources such as heat/sparks/open flame. - No smoking.</i>
PP11	Keep away from flames and hot surfaces.
PP12	Keep away from heat.
PP13	Do not spray on an open flame or any white-hot material.
PP20	Do not allow contact with air.
PP21	Keep from any possible contact with water, because of violent reaction and possible flash fire.
PP22	Handle under inert gas, protect from moisture.
PP23	Keep away from ... incompatible materials specified by the manufacturer/supplier or the competent authority.
PP24	Keep away from combustible materials. Keep reduction valves free from grease and oil.
PP25	Keep away from clothing and other combustible materials.
PP26	Take any precaution to avoid mixing with combustibles/... other incompatible materials specified by the manufacturer/supplier or the competent authority.
PP30	Keep wetted with ... appropriate material specified by the manufacturer/supplier or the competent authority.- <i>if drying out increases explosion hazard, except as needed for manufacturing or operating processes. Example: nitrocellulose</i>
PP31	Keep cool and protect from sunlight.
PP32	Keep container tightly closed.
PP33	Keep only in original container.
PP40	Ground/bond container and receiving equipment - <i>if the explosive is electrostatically sensitive.</i>
PP41	Ground/Bond container and receiving equipment. - <i>if electrostatically sensitive material is for reloading.</i>
PP42	Ground/Bond container and receiving equipment - <i>if electrostatically sensitive material is for reloading. .- if product is as volatile as to generate hazardous atmosphere.</i>
PP43	Take precautionary measures against static discharge.
PP44	Use explosion-proof electrical/ventilating/ lighting/.../equipment ... other specified by the manufacturer/supplier or the competent authority.
PP45	Use explosion-proof electrical/ventilating/lighting/.../equipment. ... other specified by the manufacturer/supplier or the competent authority. - <i>if dust clouds can occur.</i>
PP46	Use only non-sparking tools.
PP50	Do not subject to <i>rough handling such as grinding/shock/friction.</i>
PP51	Pressurized container: Do not pierce or burn, even after use.

Code	Statement (Prevention)
PP60	Do not breathe dust/fume/gas/ mist/vapours/spray.
PP61	Do not breathe dust or mist - if inhalable particles may occur during use.
PP62	Do not get in eyes, on skin, or on clothing.
PP63	Avoid contact during pregnancy/while nursing.
PP64	Avoid breathing dust/fume/gas/ mist/vapours/spray.
PP65	Use only outdoors or in a well-ventilated area.
PP66	Avoid release to the environment. - if this is not the intended use.
PP67	Do not eat, drink or smoke when using this product.
PP68	Contaminated work clothing should not be allowed out of the workplace.
PP69	Wash thoroughly after handling.
PP70	Wash hands thoroughly after handling.
PP80	Wear respiratory protection as specified by the manufacturer/supplier or the competent authority.
PP81	In case of inadequate ventilation wear respiratory protection as specified by the manufacturer or the competent authority.
PP82	Wear protective gloves and eye/face protection as specified by the manufacturer /supplier or the competent authority.
PP83	Wear eye/face protection as specified by the manufacturer/supplier or the competent authority.
PP84	Wear cold insulating gloves/face shield/eye protection.
PP85	Wear face protection as specified by the manufacturer /supplier or the competent authority.
PP86	Wear protective gloves/clothing as specified by the manufacturer/supplier or the competent authority.
PP87	Wear fire/flame resistant/retardant clothing.
PP88	Wear protective gloves as specified by the manufacturer/supplier or the competent authority.
PP89	Use personal protective equipment as required.

* Personal Protective Equipment

(b) Response statements (Coded PR)

Code	Statement (Response)
PR01	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTRE or doctor/physician. Specific treatment is urgent (see ... on this label) ... reference to Supplemental First Aid Instruction - <i>if immediate administration of antidote is required.</i>

Code	Statement (Response)
PR02	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician. Specific treatment (see ... on this label) ... reference to Supplemental First Aid Instruction - <i>if immediate specific measures are required.</i>
PR03	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell.
PR04	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
PR05	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
PR06	IF INHALED: Call a POISON CENTRE or doctor/physician if you feel unwell
PR10	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth.
PR11	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Do NOT induce vomiting.
PR12	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
PR13	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth.
PR20	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
PR21	If eye irritation persists, get medical advice/attention.
PR30	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
PR31	IF ON SKIN: Wash with plenty of soap and water.
PR32	IF ON SKIN: Gently wash with plenty of soap and water.
PR33	IF ON SKIN: Immerse in cool water/wrap with wet bandages.
PR34	Brush off loose particles from skin and immerse in cool water/wrap in wet bandages.
PR35	Wash hands after handling.
PR36	If skin irritation or rash occurs, seek medical advice/attention.
PR37	If skin irritation occurs, get medical advice/attention.
PR38	If skin irritation occurs, seek medical advice/attention.
PR40	IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
PR41	Remove/Take off immediately all contaminated clothing.
PR42	Take off contaminated clothing and wash before re-use.
PR43	Wash/Decontaminate removed clothing before reuse.
PR44	Wash contaminated clothing before reuse.
PR50	Thaw frosted parts with lukewarm water. Do not rub affected area. Seek immediate medical attention/advice.
PR60	Immediately call a POISON CENTRE or doctor/physician.

Code	Statement (Response)
PR61	Call a POISON CENTRE or doctor/physician if exposed or if you feel unwell.
PR63	If exposed or concerned: Get medical attention/advice.
PR62	If exposed: Call a POISON CENTRE or doctor/physician.
PR64	If experiencing respiratory symptoms call a POISON CENTRE or doctor/physician.
PR65	Call a POISON CENTRE or doctor/physician if you feel unwell.
PR66	Call a POISON CENTRE/doctor/physician if you feel unwell.
PR67	Get medical attention/advice if you feel unwell.
PR70	Specific treatment (see ... on this label) ... reference to Supplemental First Aid Instruction. - <i>if immediate administration of antidote is required.</i>
PR71	Specific measures (see ... on this label) ... reference to Supplemental First Aid Instruction. - <i>if immediate measures such as specific cleansing agent is advised.</i>
PR72	Specific treatment (see ... on this label) ... reference to Supplemental First Aid Instruction. <i>may include a cleansing agent specified by the manufacturer/supplier or the competent authority.</i>
PR73	Specific treatment (see ... on this label) ... reference to Supplemental First Aid Instruction. - <i>if immediate measures are required.</i>
PR80	DO NOT fight fire when fire reaches explosives. Explosion risk In case of fire. In case of fire, evacuate area.
PR81	DO NOT fight fire when fire reaches explosives. In case of fire, evacuate area. Fight fire with normal precautions from a reasonable distance - if explosives are 1.4S AMMUNITION AND COMPONENTS THEREOF.
PR82	In case of fire: evacuate area and fight fire remotely due to the risk of explosion.
PR83	In case of major fire and large quantities: evacuate area and fight fire remotely due to the risk of explosion.
PR84	In case of fire, use ... for extinction ... appropriate media specified by the manufacturer/supplier or the competent authority. - <i>if water increases risk.</i>
PR85	Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.
PR86	In case of fire, stop leak if safe to do so.
PR90	Absorb spillage to prevent material damage.
PR91	Collect spillage.

(c) Storage statements (Coded PS)

Code	Statement (Storage)
PS01	Store away from other materials.
PS02	Store away from combustibles/... ... other incompatible materials specified by the manufacturer/supplier or the competent authority.
PS03	Store in a dry place and/or in closed container.
PS04	Store contents under appropriate liquid or inert gas specified by the manufacturer/supplier or the competent authority.

Code	Statement (Storage)
PS05	Store in corrosive resistant/... container with a resistant inliner. ... other compatible materials specified by the manufacturer/supplier or the competent authority.
PS10	Store in cool place at temperatures not exceeding ...°C/...°F. ... specified by the manufacturer/supplier or the competent authority.
PS11	Store at temperatures not exceeding ...°C/...°F. ... specified by the manufacturer/supplier or the competent authority
PS12	Store bulk masses greater than ... kg/...lbs at temperatures not exceeding ...°C/...°F. ... specified by the manufacturer/supplier or the competent authority.
PS13	Protect from sunlight and do not expose to temperatures exceeding 50 °C/122 °F.
PS14	Protect from sunlight.
PS15	Protect from sunlight and store in well-ventilated place .
PS16	Store in cool/well-ventilated place.
PS17	Store container tightly closed in well-ventilated place. - if product is as volatile as to generate hazardous atmosphere.
PS18	Store in well-ventilated place.
PS19	Maintain air gap between stacks/pallets.
PS30	Store ... (in accordance with local/regional/national/ international regulation).
PS31	Store locked up.

(d) Disposal statements (Coded PD)

Code	Statement (Disposal)
PD01	Dispose of contents/container to ... (in accordance with local/regional/national/international regulation).