



Secretariat

Distr.

GENERAL

ST/SG/AC.10/C.4/2005/8
26 September 2005

Original: ENGLISH

**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

Tenth session, 7-9 December 2005
Item 3(a) of the provisional agenda

HAZARD COMMUNICATION ISSUES

Hierarchy of labelling elements

Codification of hazard and Precautionary Statements

Transmitted by the Chairperson and the expert from Australia

Introduction

1. This paper proposes a system for numbering, or codifying, GHS hazard statements and precautionary statements. The paper also proposes a number of minor editorial changes to several precautionary statements for consistency and to rationalise superfluous statements.

Background

2. The codification of hazard statements and precautionary statements 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 or hierarchy can be assigned to them. 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.

3. Codification of the various labelling elements is also an important tool to aid consistency of translation of labelling information across the different language versions of the GHS and across different language versions of information on a label.

4. At the 9th session of the SCEGHS, the Chairperson presented a working paper on the codification or numbering of hazard statements, [ST/SG/AC.10/C.4/2005/1 - Numbering of GHS Hazard Statements](#). The proposal utilised a sequential numbering system for all hazard statements.

5. As an alternative to the numbering system proposed by the Chairperson, Australia presented two informal papers on the codification of hazard statements and precautionary statements. The informal papers were [UN/SCEGHS/9/INF.8 - Numbering of GHS hazard statements](#) and [UN/SCEGHS/9/INF.7 - Codification of Precautionary Statements \(PS\)](#).

6. The Australian proposal had hazard statements within hazard group that were numbered sequentially, ie. H100 to H128 for physical hazards, H200 to H234 for health hazards and H300 to H306 for environmental hazards. The codification system proposed for precautionary statements utilised a two-letter, two-number system (ie PP for prevention statements, PR for response statements, PS for storage statements and PD for disposal statements). Statements were grouped by the similarity of information they conveyed, and then numbered sequentially within each of these categories.

7. At the 9th session of SCEGHS, discussion of the two informal papers on codification included the possibility of using a combination of letters and numbers in the hazard statement numbering system to more clearly identify the nature of the hazard, for example whether they related to physical, health or environmental hazards. This has been incorporated into the hazard statement numbering system described in this paper.

Discussion

8. The codified hazard statements and precautionary statements are shown at Annexes 1 and 2. The basis for the codification is set out below.

Hazard statements

9. For hazard statements, each type of statement is allocated a two-letter code (ie. HP for physical hazards, HH for health hazards and HE for environmental hazards) in conjunction with two numbers. Each hazard statement is given a unique code number.

10. Statements from each broad group (HP, HH and HE) are further separated into sub-groups based on the general hazard type. For example, hazard statements relating to physical hazards are separated into sub-groups relating to explosion, flammability, reactivity and miscellaneous hazards, while health hazard statements are separated into sub-groups for oral, dermal and inhalation effects, cancer/genetic and specific target organ systemic toxicity. Statements in each sub-group are numbered sequentially, with each sub-group starting with 01, 11, 21, 31... etc.

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 for the entire set of hazard statements. The benefit of the revised numbering system in this proposal is that any new statements generated in future revisions of the GHS documentation may be included within the groups and sub-groups with other related statements.

Precautionary statements

12. As with the hazard statement numbering system, each precautionary statement is assigned a two letter code (ie. PP for prevention statements, PR for response statements, PS for storage statements and PD for disposal statement), which in combination with a two digit numeral forms a unique identifier (eg PR04, PP22 etc). The numbering for each grouping starts with 01, 11, 21, 31... etc.

13. The statements within each type (PP, PR, PS or PD) are 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 are 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.

14. For both the hazard statements and precautionary statements, if related statements are added to the system in the future then they can be inserted into each group or sub-group at an appropriate place using the unassigned numbers. This is an important consideration as the precautionary statements may be refined as implementation experience is gained.

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

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

Proposed editorial changes to precautionary statements

16. During the codification of the precautionary statements and discussions at the 9th SCEGHS, it was noted that several precautionary statements may require some clarification or editorial revision for consistency and to minimise unnecessary duplication. The following statements are proposed for editorial revision and have been included in Annex 2 in italics e.g., *PP11* in the proposed edited form:

- (a) The following precautionary statements each relate to a hazard associated with contact or proximity to an ignition source

| |
|---|
| Keep away from <i>ignition sources such as</i> heat/sparks/open flame. - No smoking. |
| Keep away from flames and hot surfaces. |
| Keep away from heat. |

It is proposed that these statements may be replaced by a single statement:

PP10 Keep away from *ignition sources such as...* heat/sparks/open flame/hot surfaces... – No smoking

- (b) The first part of each precautionary statement below (PR01, PR02 and PR03) is referring to the same requirement.

| |
|---|
| IF INHALED: Remove <i>victim</i> 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> |
| 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> |
| IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POSION CENTER or doctor/physician if you feel unwell. |

It is proposed to delete the word “victim” from the first statement to make this consistent with the two following statements. The first line of each of the three statements would be:

Remove to fresh air and keep at rest in a position comfortable for breathing.

- (c) In the following precautionary statements, the words “get” or “seek” have been used, apparently as alternatives to each other. There does not appear to be a rationale for using the two different terms in the statements.

| |
|--|
| If eye irritation persists, get medical advice/attention. |
| If skin irritation or rash occurs, seek medical advice/attention. |
| If skin irritation occurs, get medical advice/attention. |
| If skin irritation occurs, seek medical advice/attention. |
| Thaw frosted parts with lukewarm water. |
| Do not rub affected area. |
| Seek immediate medical attention/advice. |
| If exposed or concerned: Get medical attention/advice. |
| Get medical attention/advice if you feel unwell. |

For consistency, it is proposed that where the word “seek” is used, it be replaced by the word “get”. The third and fourth statements in the above table then become identical (PR37) and one could therefore be deleted.

- (d) In the following two precautionary statements (PR33 and PR34), the wording is inconsistent.

| |
|--|
| IF ON SKIN: Immerse in cool water/wrap with wet bandages. |
| Brush off loose particles from skin and immerse in cool water/wrap in wet bandages. |

For consistency it is proposed that the first statement (PR33) be amended as:

... /wrap in wet bandages

- (e) The following statements are similar in intent.

| |
|--|
| Wash/Decontaminate removed clothing before reuse. |
| Wash contaminated clothing before reuse. |

It is proposed the above statements be replaced by one statement:

PR43 Wash contaminated clothing before reuse.

- (f) The following statements are essentially identical.

| |
|---|
| Call a POISON CENTER or doctor/physician if you feel unwell. |
| Call a POISON CENTER/doctor/physician if you feel unwell. |

It is proposed these statements be replaced by one statement:

PR65 Call a POISON CENTER or doctor/physician if you feel unwell

- (g) The use of the term “any white hot material” in the following statement (PR11) appears to be restrictive if the intent of the statement is to warn against the spraying of aerosols on ignition sources.

| |
|---|
| Do not spray on an open flame or any white-hot material. |
|---|

It is proposed the above statement be amended as follows to better reflect the intent:

PP11 Do not spray on an open flame or other ignition sources.

Annex 1Codified Hazard Statements**Physical hazards (Coded HP)**

| <u>Code</u> | <u>Hazard Statement</u> |
|--------------------|---|
| HP01 | Unstable Explosive |
| HP02 | Explosive; mass explosion hazard |
| HP03 | Explosive; severe projection hazard |
| HP04 | Explosive; fire, blast or projection hazard |
| HP05 | Fire or projection hazard |
| HP06 | May mass explode in fire |
| HP07 | Heating may cause an explosion |
| HP08 | Heating may cause a fire or explosion |
| HP09 | May cause fire or explosion; strong oxidizer |
| HP20 | Catches fire spontaneously if exposed to air |
| HP21 | May cause or intensify fire; oxidizer |
| HP22 | May intensify fire; oxidizer |
| HP23 | In contact with water releases flammable gases which may ignite spontaneously |
| HP24 | In contact with water releases flammable gas |
| HP25 | Self-heating; may catch fire |
| HP26 | Self-heating in large quantities; may catch fire |
| HP27 | Heating may cause a fire |
| HP40 | Extremely flammable gas |
| HP41 | Flammable gas |
| HP42 | Extremely flammable aerosol |
| HP43 | Flammable aerosol |
| HP44 | Extremely flammable liquid and vapour |
| HP45 | Highly flammable liquid and vapour |
| HP46 | Flammable liquid and vapour |
| HP47 | Combustible liquid |
| HP48 | Flammable solid |
| HP60 | Contains gas under pressure; may explode if heated |
| HP61 | Contains refrigerated gas; may cause cryogenic burns or injury |
| HP62 | May be corrosive to metals |

Health hazards (Coded HH)

| <u>Code</u> | <u>Hazard Statement</u> |
|--------------------|---|
| HH01 | Fatal if swallowed |
| HH02 | Toxic if swallowed |
| HH03 | Harmful if swallowed |
| HH04 | May be harmful if swallowed |
| HH10 | Fatal in contact with skin |
| HH11 | Toxic in contact with skin |
| HH12 | Harmful in contact with skin |
| HH13 | May be harmful in contact with skin |
| HH14 | Causes severe skin burns and eye damage |
| HH15 | Causes skin irritation |
| HH16 | Causes mild skin irritation |

| Code | Hazard Statement |
|-------------|--|
| HH17 | Causes serious eye damage |
| HH18 | Causes serious eye irritation |
| HH19 | Causes eye irritation |
| HH20 | May cause an allergic skin reaction |
| HH30 | Fatal if inhaled |
| HH31 | Toxic if inhaled |
| HH32 | Harmful if inhaled |
| HH33 | May be harmful if inhaled |
| HH34 | May be fatal if swallowed and enters airways |
| HH35 | May be harmful if swallowed and enters airways |
| HH36 | May cause respiratory irritation |
| HH37 | May cause drowsiness or dizziness |
| HH38 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| HH50 | May cause genetic defects <i><state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH51 | Suspected of causing genetic defects <i><state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH52 | May cause cancer <i><state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH53 | Suspected of causing cancer <i><state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH54 | May damage fertility or the unborn child <i><state specific effect if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH55 | Suspected of damaging fertility or the unborn child <i><state specific effect if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH56 | May cause harm to breast-fed children |
| HH60 | Causes damage to organs <i><or state all organs affected, if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH61 | May cause damage to organs <i><or state all organs affected, if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH62 | Causes damage to organs <i><or state all organs affected, if known> through prolonged or repeated exposure</i> <i><state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |
| HH63 | May cause damage to organs <i><or state all organs affected, if known> through prolonged or repeated exposure</i> <i><state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard></i> |

Environmental hazards (Coded HE)

| Code | Hazard Statement |
|-------------|---|
| HE01 | Very toxic to aquatic life |
| HE02 | Toxic to aquatic life |
| HE03 | Harmful to aquatic life |
| HE04 | Very toxic to aquatic life with long lasting effects |
| HE05 | Toxic to aquatic life with long lasting effects |
| HE06 | Harmful to aquatic life with long lasting effects |
| HE07 | May cause long lasting harmful effects to aquatic life |

Annex 2Codified Precautionary Statements

Prevention statements (Coded PP)

| Code | Prevention |
|------|--|
| PP01 | Obtain special instructions before use. |
| PP02 | Do not handle until all safety precautions have been read and understood. |
| PP10 | Keep away from ignition sources such as heat/sparks/open flame/hot surfaces - No smoking. |
| PP11 | Do not spray on an open flame or other ignition sources. |
| 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. - if drying out increases explosion hazard, except as needed for manufacturing or operating processes. Example: nitrocellulose |
| 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 - if the explosive is electrostatically sensitive. |
| PP41 | Ground/Bond container and receiving equipment. - if electrostatically sensitive material is for reloading. |
| PP42 | Ground/Bond container and receiving equipment - if electrostatically sensitive material is for reloading. - if product is as volatile as to generate hazardous atmosphere. |
| 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 or the competent authority. - if dust clouds can occur. |
| PP46 | Use only non-sparking tools. |
| PP50 | Do not subject to rough handling such as grinding/shock/friction. |
| PP51 | Pressurized container: Do not pierce or burn, even after use. |
| 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. |

| Code | Prevention |
|------|---|
| 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. - <i>if this is not the intended use.</i> |
| 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 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/clothing and eye/face protection as specified by the manufacturer /supplier or the competent authority. |
| PP83 | Wear protective gloves and eye/face protection as specified by the manufacturer /supplier or the competent authority. |
| PP84 | Wear eye/face protection as specified by the manufacturer or the competent authority. |
| PP85 | Wear cold insulating gloves/face shield/eye protection. |
| PP86 | Wear face protection as specified by the manufacturer /supplier or the competent authority. |
| PP87 | Wear protective gloves/clothing as specified by the manufacturer/supplier or the competent authority. |
| PP88 | Wear fire/flame resistant/retardant clothing. |
| PP89 | Wear protective gloves as specified by the manufacturer/supplier or the competent authority. |
| PP90 | Use personal protective equipment as required. |

Response statements (Coded PR)

| Code | Response |
|------|--|
| PR01 | IF INHALED: Remove 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> |
| 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 CENTER 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 CENTER or doctor/physician if you feel unwell |
| PR10 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth |
| PR11 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. |
| PR12 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |

| Code | Response |
|------|--|
| PR13 | IF SWALLOWED: Call a POISON CENTER 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 in 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, get medical advice/attention. |
| PR37 | If skin irritation occurs, get 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 contaminated clothing before reuse. |
| PR50 | Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical attention/advice. |
| PR60 | Immediately call a POISON CENTRE or doctor/physician. |
| PR61 | Call a POISON CENTRE or doctor/physician if exposed or if you feel unwell. |
| PR62 | IF exposed: Call a POISON CENTRE or doctor/physician. |
| PR63 | If exposed or concerned: Get medical attention/advice. |
| 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 | 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. Evacuate area. |
| PR81 | DO NOT fight fire when fire reaches explosives. Explosion risk in case of fire. In case of fire, evacuate area. |

| Code | Response |
|------|--|
| PR82 | 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. |
| PR83 | In case of fire: evacuate area and fight fire remotely due to the risk of explosion. |
| PR84 | In case of major fire and large quantities: evacuate area and fight fire remotely due to the risk of explosion. |
| PR85 | In case of fire, use ... for extinction ... appropriate media specified by the manufacturer/supplier or the competent authority. - <i>if water increases risk.</i> |
| PR86 | Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. |
| PR87 | In case of fire, stop leak if safe to do so. |
| PR90 | Absorb spillage to prevent material damage. |
| PR91 | Collect spillage. |

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. |
| PS05 | Store in corrosive resistant/... container with a resistant liner. ... 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. |

Disposal statements (Coded PD)

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