

## Implementing GHS in Canada – What you need to know

### *Background*

The globally harmonized system (GHS) is an internationally recognized system utilized for classifying chemicals, in turn directly affecting items such as labels and safety data sheets (SDS). Due to the systems worldwide recognition, GHS is anticipated to increase global trade while maintaining standardized safety communication protocols.

### *How does it affect me?*

GHS classification and labelling systems are to be integrated into the current WHMIS system that is established under the Hazardous Products Act and Controlled Products Regulations. As such, the responsibilities of suppliers, employers, and workers will not be altered, but rather be reflective of the new GHS communication standards. Broken down, this means:

- suppliers (including producers) must properly classify and label hazardous products
- employers must educate and train workers, ensure hazardous materials are properly labelled and have SD sheets, and strive to protect the health and safety of the worker
- workers must participate in WHMIS and chemical safety programs, identify and control hazards, and take proper precautionary measures for a safe work place

### *What are the proposed changes?*

#### Classification of Hazard Classes

With the adoption of GHS, the greatest changes are going to be observed in the overall classification and communication of hazardous materials under the new Hazardous Products Regulations, which will replace the Controlled Products Regulations. Firstly, there will be two recognized hazard groups; Physical Hazard Classes and Health Hazard classes, both of which have subclasses (below). In Canada, they will **not** be implementing the third hazard group, Environmental Hazard Classes.

| Physical Hazard Classes               |   |
|---------------------------------------|---|
| Flammable Gases                       | Substances and mixtures that, in contact with water, emit flammable gases |
| Flammable Aerosols                    | Oxidizing Liquids   |
| Oxidizing Gases                       | Oxidizing Solids  |
| Gases Under Pressure                  | Organic Peroxides   |
| Flammable Liquids                     | Corrosive to Metals   |
| Flammable Solids                      | Combustible Dusts <sup>1</sup>  |
| Self-Reactive Substances and Mixtures | Simple Asphyxiants <sup>1</sup>   |
| Pyrophoric Liquids                    | Pyrophoric Gases <sup>1</sup>   |
| Pyrophoric Solids                     | Physical Hazards Not Otherwise Classified                                 |
| Self-Heating Substances and Mixtures  |   |

<sup>1</sup>New physical hazard classes under the Hazardous Products Regulations

| Health Hazard Classes                                  |  |
|--|--|
| Acute Toxicity (Categories 1 to 4)                     | Carcinogenicity (Categories 1A, 1B, & 2)   |
| Skin Corrosion/Irritation (Categories 1A, 1B, 1C, & 2) | Reproductive Toxicity (Categories 1A, 1B, 2, with a category regarding the effects on lactation) |
| Serious Eye Damage/Irritation (Categories 1, 2A, 2B)   | Specific Target Organ Toxicity – Repeated Exposures (Categories 1 & 2)                           |
| Respiratory or Skin Sensitization (Categories 1A & 1B) | Specific Target Organ Toxicity – Single Exposure (Categories 1, 2, & 3) <sup>2</sup>             |
| Germ Cell Mutagenicity (Categories 1A, 1B, & 2)        | Aspiration Hazard (Category 1) <sup>2</sup>  |

<sup>2</sup>New health hazard classes under the Hazardous Products Regulations

In addition to the above hazard classes, the Hazardous Products Regulations will also introduce the Health Hazards Not Otherwise Classified class, and retain the WHMIS hazard class for Biohazardous Infectious Materials.

### Communication of Hazards

As with WHMIS, the communication of hazards under GHS will be implemented by using supplier labels and what will now be referred to as **safety data sheets (SDS)**. Both the supplier labels and SDS will utilize pictograms and statements to convey the hazard information. Information regarding the precautions and first aid protocols will remain the same as in WHMIS.

### Safety Data Sheets

In Canada, for the sale of each new product, a SDS must be supplied in both English and French. On the SDS for each hazardous product, the following information must be provided:

- classification and supplier label information
- information regarding the formation of reaction products resulting from following the instructions of a given product
- product and supplier identifiers that would appear on the supplier label (i.e. name, address, telephone number)
- if a mixture, the chemical name and concentration for each chemical in the mixture that presents a health hazard shall be listed
- the chemical name of a substance that poses a health or physical hazard

The SD sheets will consist of 16 required sections of information compared to the WHMIS standard of 9. The SDS required sections are as follows:

| Section | Hazardous Product Regulations Heading                           |
|---------|---|
| 1       | Identification  |
| 2       | Hazard identification (including classification and label text) |
| 3       | Composition/information on ingredients                          |
| 4       | First-aid measures  |
| 5       | Fire-fighting measures  |

|       |  |
|-------|--|
| 6     | Accidental release measures  |
| 7     | Handling and storage   |
| 8     | Exposure controls/personal protection  |
| 9     | Physical and chemical properties   |
| 10    | Stability and reactivity   |
| 11    | Toxicological information  |
| 12-15 | Ecological, <sup>3</sup> transport and regulatory information, <sup>3</sup> disposal considerations <sup>3</sup> |
| 16    | Other information  |

<sup>3</sup>Section titles for 12-15 must appear, but section may be blank

Under the new Hazardous Products Regulations, the need to review SD sheets every 3 years will be removed. SDSs, however, must be accurate at time of sale and importation. Upon new information becoming available regarding a product, the supplier will have 90 days to update the SD sheet. In addition, the ingredient disclosure requirements will change. Only chemicals in mixtures that pose a health hazard will need to be disclosed on the SDS. For those mixtures containing an ingredient that poses a physical hazard, only the name of the particular chemical needs to be provided on the SDS. Finally, it will not be necessary to disclose ingredients that possess toxicological properties.

### Labels

Implementation of the Hazardous Products Regulations will also affect the appearance of labels. Below are the proposed labelling requirements under the Hazardous Products Regulations in contrast to the current Controlled Products Regulations.

| Hazardous Products Regulations   | Controlled Products Regulations     |
|--|-------------------------------------|
| Product identifier   | Product identifier                  |
| Initial supplier identifier with supplier details (name, address, phone) | Supplier identifier (name)          |
| Pictograms   | Hazard symbols                      |
| Signal word  |                                     |
| Hazard statement(s)  | Risk phrase(s)                      |
| Precautionary statements (includes first aid instructions)               | Precautionary measures              |
|  | First aid instructions              |
| No reference   | Reference to MSDS                   |
| No border  | Hatched border around label content |
| Additional information for ingredients of unknown acute toxicity         |                                     |

The pictograms mentioned in the above table will be framed by a red diamond, in contrast to the black circle used for the hazard symbols, to draw additional attention to the hazards. The proposed pictograms are presented below. It is important to note that Canada will **not** be adopting the environmental hazard classes as well as the explosives class. In addition to the GHS pictograms, Canada will keep the current hazard symbol representative of biohazardous infectious materials. Materials that are deemed biohazardous will also require an addendum to the SD sheet specific to biohazards.



- Flammables (gases, aerosols, liquids, solids)
- Self-reactive substances and mixtures
- Pyrophoric liquids, solids, and gases
- Self-heating substances and mixtures
- Substances and mixtures that in contact with water emit flammable gas
- Organic peroxides



- Skin sensitization
- Acute toxicity (harmful)
- Specific target organ toxicity – single exposure (category 3)
- Eye irritation
- Skin irritation
- Hazardous to the ozone layer<sup>4</sup>



- Acute toxicity (severe)



- Oxidizing gases, liquids, solids



- Carcinogenicity
- Respiratory sensitization
- Reproductive toxicity
- Specific target organ toxicity – repeated exposure
- Specific target organ toxicity – single exposure (category 1, 2)
- Aspiration hazard
- Germ cell mutagenicity



- Corrosive to metals
- Serious eye damage
- Skin corrosion



- Gases under pressure



- Biohazardous infectious materials




- Self-reactive substances and mixtures
- Organic peroxides
- Explosives<sup>4</sup>



- Hazardous to the aquatic environment<sup>4</sup>

<sup>4</sup>Environmental hazard classes currently not anticipated to be adopted in Canada

The overall label will be visually similar to the one presented below. Appearance wise, one of the most significant differences is the lack of the hatched border. Also on the label, the pictograms, signal word, and hazard statement(s) **must** be grouped together on the label.

|  |   |                              |
|--|---|------------------------------|
| <h1>Product K</h1>   | } | Product identifier           |
|   | } | Pictogram                    |
| <h2>Danger</h2>  | } | Signal word                  |
| Fatal if swallowed<br>Causes skin irritation   | } | Hazard statement             |
| <b>Precautions:</b><br>Wear protective gloves.<br>Wash hands thoroughly after handling.<br>Do not eat, drink or smoke when using this product.   | } | Precautions                  |
| Store locked up.<br>Dispose of contents/containers in accordance with local regulations.   | } |                              |
| IF ON SKIN: Wash with plenty of water.<br>If skin irritation occurs: Get medical advice or attention.<br>Take off contaminated clothing and wash it before reuse.<br>IF SWALLOWED: Immediately call a POISON CENTRE<br>or doctor. Rinse mouth. | } |                              |
| ABC Chemical Co., 123 Anywhere St., (123) 456-7890   | } | Initial supplier information |

As previously mentioned for the SDS, label accuracy will also be required at the time of sale and important of hazardous products. For new information regarding a hazardous product, suppliers will have 180 days to update their label accordingly.

### Supplier Exemptions

The supplier exemptions regarding complex mixtures and labelling of an outer secondary container are anticipated to stay the same. The below supplier exemptions are anticipated to be modified:

- Products without packaging: will include bulk shipments and products sold without any packaging
- Small volume containers: for containers equal to and less than 100 mL in size, only precautionary statements will be required on the label

- Small containers: for containers equal to and less than 3 mL in size, labels must be durable for transport purposes, but can be removed for use
- Kits: for two or more hazardous products contained by a single outer container, less descriptive labels may be used

### *Specific to Canada*

A variety of aspects of the GHS program will be specific only to Canada.

### Hazard Classes

As previously mentioned, Canada will retain the biohazardous infectious materials classification as a hazard class. In addition, the new combustible dust hazard class, will be specifically defined in Canada as follows:

- Combustible dust: a mixture or a substance that is in the form of a powder that following ignition, can catch fire or explode when dispersed either in the air or an oxidizing media

The combustible dust hazard class does not apply to materials that are sold in solid form that may, upon manipulation, be converted into a dust.

For both physical and health hazards of a substance not addressed by the subclasses in GHS, the physical hazards not otherwise specified and health hazards not otherwise specified subclasses will be applicable in Canada.

### Supplier Identifier

The initial supplier of a controlled substance must be provided on both the SDS and label unless the distributor opts to provide their own information.

### Confidential Business Information

The confidential business information aspect of WHMIS will be unaltered under the proposed changes.

### *Sources*

The preceding information is sourced from the following Government of Canada departments:

- Canadian Centre for Occupational Health and Safety
- Health Canada