

The Globally Harmonized System for the Classification and Labelling of Chemicals (The GHS)

Implementation of the GHS in Canada

Workplace Hazardous Materials Information System (WHMIS)

Introduction

The GHS includes harmonized classification criteria and hazard communication elements, i.e., labels and safety data sheets (SDSs). This document compares the GHS and the WHMIS sector in a number of categories; (a) GHS vs WHMIS for classification criteria, physical, health and environmental hazards, (b) classification criteria for mixtures, (c) hazard communication for labelling requirements, including symbols and (d) material safety data sheets (MSDSs).

In general, the GHS hazard classes and the overall classification criteria found within those hazard classes mirror those of the current WHMIS program. However, in many cases, the GHS has designated specific categories within hazard classes, which is a distinction not made in the existing WHMIS criteria. The GHS includes classification criteria for explosives which are exempt under WHMIS. Yet there are other hazard classes under WHMIS, such as Class D3, biohazardous materials, for which there is no GHS category.

There are a number of similarities between the key label elements found in the GHS and in WHMIS. Both systems require product identifier, supplier identifier, hazard symbols, hazard statement/risk phrases and precautionary information/first aid measures. Note that the definition of risk phrase in the *Controlled Products Regulations (CPR)* “means, in respect of a controlled product or a class, division or subdivision of controlled products, a statement identifying a hazard that may arise from the nature of the controlled product or the class, division or subdivision of controlled products” and is considered to be equivalent to a hazard statement. The GHS has standardized hazard statements but no specific phrases specified in the *CPR*. Currently, there are only suggested examples of risk phrases on the WHMIS Web site. The GHS includes identifying hazardous ingredients on a label but also includes that a competent authority may choose to give suppliers discretion to include chemical identities on the SDS rather than on the label. In addition, the current WHMIS label must have a statement indicating that a MSDS is available. WHMIS has the hatched border for which there is no comparable border under the GHS. Adoption of the GHS label in Canada will mean changes to the current WHMIS regulations.

Hazard symbols are another aspect of label requirements that are similar for both WHMIS and GHS. Generally, the hazard glyphs are similar in both systems but the symbol shape and colour are different. Upon implementation of GHS there will need to be changes to all of the currently used WHMIS hazard symbols which means that the *CPR* will have to be amended to replace its currently used symbols.

WHMIS has adopted a nine heading material safety data sheet (MSDS\’s) requirement (*CPR* Section 12 and Schedule I). The 9 headings are: hazardous ingredients, preparation information, product information, physical data, fire or explosion hazard data, reactivity data, toxicological properties, preventative measures and first aid measures. However, as an administrative policy, MSDSs for WHMIS controlled products which use the International Labour Organization (ILO), International Standards Organization (ISO) or European Commission (EC) 16 heading format are accepted as meeting compliance requirements of Section 12 of the *CPR*, provided that all 16 headings are disclosed (in the sequence recommended by these other standards) and that the required content specified under Schedule I, Column III of the *CPR* is addressed. Under the ILO heading "Regulatory Information", the following statement should appear: "This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*."

The GHS requirements for safety data sheet (SDS) are for a 16 heading modified ILO. The GHS 16 heading SDS has requirements for most of the information already required for in the WHMIS MSDS. There are some additional requirements such as transportation information, and for classification, label elements and symbols.

Based on the fact that all chemicals and chemical products in commerce are made in a workplace (including consumer products), handled during shipment and transport by workers, and often used by workers, there is no complete exemption from the scope of the GHS for any particular type of chemical or product. Labelling of pharmaceuticals, food additives, cosmetics, and pesticide residues are not covered in the GHS at the point of consumer use or intentional intake. However, these types of chemicals are covered under the GHS where workers may be exposed. Under WHMIS, a number of products are excluded, namely:

- (a) explosive within the meaning of the *Explosives Act*;
- (b) cosmetic, device, drug or food within the meaning of the *Food and Drugs Act*;
- (c) control product within the meaning of the *Pest Control Products Act*;
- (d) nuclear substance, within the meaning of the *Nuclear Safety and Control Act*, that is radioactive;
- (e) hazardous waste;
- (f) product, material or substance included in Part II of Schedule I of the *Hazardous Products Act* and packaged as a consumer product;
- (g) wood or product made of wood;
- (h) tobacco or a tobacco product as defined in section 2 of the *Tobacco Act*; or
- (i) manufactured article.

Adoption of the GHS may provide impetus for a review of these exclusions

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TABLE 1 GHS hazards which are identified on WHMIS labels**Physical Hazards**

GHS Hazard Categories	Used by WHMIS	WHMIS Class
Explosive Substances (Liquid or Solid) and Explosive Articles	no	EXEMPT
Flammable Gases	yes	B1
Flammable Aerosols	yes	B5
Oxidizing Gases	yes	C
Gases Under Pressure	yes	A
Flammable Liquids	yes	B3
Flammable Solids	yes	B4
Self-Reactive Substances	yes	F
Pyrophoric Liquids	yes	B6
Pyrophoric Solids	yes	B6
Self-Heating Substances	yes	B4
Substances which in contact with water emit flammable gases	yes	B6
Oxidizing Liquids	yes	C
Oxidizing Solids	yes	C
Organic Peroxides	yes	C
Corrosive to Metals	yes	C

Health and Environmental Hazards

Hazard Classes	Used by WHMIS	WHMIS Class
Acute Toxicity - Oral	yes	D1A
Acute Toxicity - Skin	yes	D1B
Acute Toxicity - Inhalation	yes	D1C
Skin Corrosion/Irritation	yes	E
Serious Eye Damage/Eye Irritation	yes	D2B
Respiratory Sensitization	yes	D2A
Skin Sensitization	yes	D2B
Mutagenicity	yes	D2A, D2B
Carcinogenicity	yes	D2A
Reproductive Toxicity	yes	D2A
Target Organ Systemic Toxicity - Single Exposure	yes	Not Covered
Target Organ Toxicity - Repeat Exposure	yes	D2A, D2B
Aquatic Toxicity	no	Not Covered