



WHMIS

After GHS

Workplace Hazardous Materials Information System



“WHMIS After GHS” provisional infosheets introduce the components of WHMIS as they may appear once the Globally Harmonized System for Classification and Labelling of Chemicals (GHS) is implemented in Canada. This infosheet is intended to be informational and is not final or official. Subscribe to Health Canada’s WHMIS News for updates on implementation: www.whmis.gc.ca.

WHMIS After GHS – An Overview

What is GHS?

GHS is an international initiative to standardize chemical hazard classification and communication globally. The implementation of GHS in WHMIS will help harmonize hazard communication systems worldwide.

WHMIS is a national hazard communication system that provides information on the safe use of hazardous materials in Canadian workplaces. GHS will not replace WHMIS. WHMIS will be modified to incorporate the GHS elements. There will be new **standardized**:

- classification rules
- label requirements
- safety data sheet (SDS) format (formerly material safety data sheet)

Classification

Classification criteria will change in WHMIS after GHS, however all of the existing WHMIS hazard classes will continue but with more specific names. Some new classes will be added, including explosives and aspiration hazards. See the *WHMIS after GHS Hazard Classes* Infosheet for more information.

Hazard communication will be more standardized. Standardized hazard statements, signal words, and symbols/pictograms will be introduced. Precautionary statements may also be prescribed.

Supplier Labels

Supplier labels will have a few new requirements. Most of the label elements will be standardized. Each hazard class and category will have a prescribed signal word, hazard statement and symbol/pictogram. Supplier labels will continue to be required in both English and French. See the *WHMIS after GHS Supplier Labels* Infosheet for more information.

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Safety Data Sheets (SDSs)

Safety data sheets (SDSs) will follow a standard 16-section format with specific information requirements. Changes include providing the WHMIS classification and label information in section 2.

It is anticipated that the SDS updating requirement will continue (every 3 years or when new significant information becomes available). For further information see the *WHMIS after GHS Safety Data Sheets* Infosheet.

Confidential Business Information – Trade Secrets

The current trade secret rules will likely still apply.

Roles, Responsibilities and Duties

The current roles and responsibilities for suppliers, employers and workers likely will not change in WHMIS after GHS.

Suppliers will still classify hazardous products, prepare labels and SDSs, and provide these to customers. See the *WHMIS after GHS Information for Suppliers and Importers* Infosheet for more information.

Employers will still ensure that all hazardous products are properly labelled and make up-to-date SDSs readily available to workers. Employers will also provide worker education and training and ensure appropriate control measures to protect the health and safety of workers. See the *WHMIS after GHS Information for Employers* Infosheet for more information.

Workers will still participate in WHMIS training programs, take necessary steps to protect themselves and their coworkers, and participate in identifying and controlling hazards.

Timeline

Consultations through the National WHMIS Office with stakeholder associations are being finalized. An interim policy has been established to permit use of GHS-formatted safety data sheets in Canada. Additional interim policies may be developed. Regulatory proposals to update WHMIS are anticipated in 2011-2012.



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Information for Suppliers and Importers

The implementation of GHS in WHMIS will help harmonize Canada’s hazard communication system with those of other countries. The benefits will include a globally standardized approach for hazard classification and hazard communication (Supplier Labels and Safety Data Sheets (SDSs)).

Supplier and Importer Responsibilities

Under WHMIS after GHS suppliers will continue to:

- Classify products
- Create labels
- Create SDSs (formerly MSDSs)

Classification

WHMIS after GHS will have many hazard classes. Most classes will use criteria similar to those in the current WHMIS classes and divisions. Some new classes will be added, including explosives, aspiration hazard and possibly environmental hazards. Some classes contain “categories” to reflect varying degrees of hazard. See the *WHMIS after GHS Hazard Classes* Infosheet for more information on hazard classes.

To prepare to classify a product, suppliers could:

1. Obtain a copy of the criteria.
2. Identify the relevant hazard data for products.
3. Review the data in light of the classification criteria to determine the appropriate hazard classes and categories. Note that there is specific guidance for classifying mixtures.
4. Document the rationale and information for future reference.

Once changes to WHMIS legislation have been published, confirm product classifications.

Suppliers must use a “weight of evidence” approach to classify products. The validity of research reports and other information must be evaluated as a whole. In some cases a single, well-conducted study will be sufficient.

Hazard Communication:

Supplier Labels and Safety Data Sheets

Standardized information will be prescribed for hazard statements, signal words, and symbols/pictograms based on hazard classes and categories. Precautionary statements may also be prescribed.

Supplier Labels

Most of the label elements will be standardized. Each hazard class and category will have a prescribed signal word, hazard statement and symbol/pictogram. English and French will continue to be required. See the *WHMIS after GHS Supplier Labels* Infosheet for further information.

Safety Data Sheets

Safety Data Sheets (SDSs) will use a standard 16-section format. There will be some new information requirements. For example, the WHMIS classification, hazard statements and other label elements will be required in Section 2.

It is anticipated that the SDS updating requirement will continue (every 3 years or when new significant information becomes available). For further information see the *WHMIS after GHS Safety Data Sheets* Infosheet.

Confidential Business Information – Trade Secrets

The current trade secret rules will likely still apply.

For Further Information

See the GHS ‘Purple Book’, 3rd revised edition, 2009:
http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html





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Information for Employers

The implementation of GHS in WHMIS will help harmonize Canada’s chemical hazard communication system with those of other countries. The benefits will include a globally standardized approach for hazard classification and hazard communication (labels and Safety Data Sheets (SDSs)) that will help to provide more consistent hazard information.

Employers’ Duties

Under WHMIS after GHS employers must continue to:

- Educate and train workers on the hazards and safe use of products.
- Ensure that hazardous materials are properly labelled.
- Prepare workplace labels and SDSs as necessary.
- Provide access for workers to up-to-date SDSs.

Worker Education and Training

Employers will be required to educate and train workers about WHMIS after GHS. Revised training programs, developed in consultation with the health and safety committee will include:

- New hazard symbols/pictograms (some are similar to existing WHMIS symbols, others are new). See the WHMIS after GHS Symbols/Pictograms Infosheet.
- New hazard classes. See *WHMIS after GHS Hazard Classes* Infosheet.
- New labels and their required elements such as signal words. See *WHMIS after GHS Supplier Labels* Infosheet.
- The meaning of **all** signal words and hazard statements found on labels and SDSs in the workplace, such as *Danger - May cause cancer*.
- The new SDS format and how to locate information needed to work safely with a product.
- Work site-specific training on measures to work safely with hazardous materials.

After GHS implementation, SDSs and labels for products originating within and outside of Canada will share common elements. This will simplify education and training.

Supplier Labels

New requirements for supplier labels include signal words and hazard statements. Disclosure of hazardous ingredients may also be required.

Information for most of the label elements will be standardized. Each hazard class and category will have a prescribed signal word, hazard statement and symbol/pictogram. Supplier labels will continue to be required in both English and French. See the *WHMIS after GHS Supplier Labels* Infosheet for further information.

The preparation of workplace labels will still be required. Specific requirements for workplace labels have not been finalized.

Safety Data Sheets (SDSs)

SDSs will follow a standard 16-section format. There will be some new information requirements, for example, inclusion of the WHMIS classification, hazard statements and other label elements in Section 2. For further information see the *WHMIS after GHS Safety Data Sheets* Infosheet.

It is anticipated that the SDS updating requirement will continue (every 3 years or when new significant information becomes available).

Worker access to SDSs is a continuing requirement. Ensure that updated SDSs are obtained for all hazardous products used in the workplace.

Confidential Business Information – Trade Secrets

The current trade secret rules will likely still apply.

Tip – It is critical to have an accurate inventory of MSDSs and SDSs required in the workplace. Many organizations will benefit from electronic SDS management systems.

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Hazard Classes

WHMIS after GHS will have many classes for specific hazards identified in the current WHMIS system of classes and divisions, as well as additional hazards (e.g., explosives, aspiration hazard). Hazard class names are **bolded**. Some hazard classes have more than one symbol/pictogram to reflect the different degrees of hazard.

Physical Hazard Classes

	Explosives – materials capable of explosive reactions, including pyrotechnics.
	Flammable gases; Flammable aerosols; Flammable liquids; Flammable solids – materials that can burn in air when ignited.
	Oxidizing gases; Oxidizing liquids; Oxidizing solids – materials that can cause or increase the intensity of a fire.
	Self-reactive substances and mixtures – unstable materials that can decompose rapidly and upon heating, can cause fire or explosion
	Pyrophoric liquids; Pyrophoric solids – materials that can readily ignite when exposed to air.
	Self-heating substances and mixtures – materials that can decompose slowly and become hot when exposed to air.
	Organic peroxides – materials that are unstable, highly reactive or explosive.
	Corrosive to metals – materials that can damage or destroy metals.
	Gases under pressure – includes compressed, liquefied, dissolved and refrigerated liquefied gases.
	Substances and mixtures which, in contact with water, emit flammable gases ; i.e., they can react with water to give off gas that is flammable or spontaneously explosive.

Health and Environmental Hazard Classes

	Acute toxicity – materials that can cause toxic effects following a single exposure
	Skin corrosion/irritation – materials that can cause irreversible skin damage (corrosion) or reversible damage (irritation)
	Serious eye damage/ Eye irritation – materials that can cause irreversible or reversible eye damage
	Respiratory sensitization – materials that can cause asthma or respiratory hypersensitivity.
	Skin sensitization – materials that can cause allergic skin reactions.
	Germ cell mutagenicity – materials that can cause damage to the DNA in the reproductive cells of humans that can be passed to future generations.
	Carcinogenicity – materials that can cause increased risk of cancer.
	Reproductive toxicity – materials that can cause reduced sexual function and fertility of adults or adverse effects on the development of offspring.
	Specific target organ toxicity - single exposure – materials that can cause non-lethal toxic effects on an organ system (reversible or irreversible).
	Specific target organ toxicity – repeated exposure – materials that can cause non-lethal toxic effects on an organ system (reversible or irreversible).
	Aspiration hazard – materials that can enter the lungs and cause serious toxic effects.
	Hazardous to the aquatic environment.
	Hazardous to the ozone layer.

See the GHS ‘Purple Book’, 3rd revised edition, 2009: http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html

The following WHMIS hazards are not identified as GHS hazard classes but will likely be retained with new pictograms:

	Substances and mixtures which, in contact with water, release toxic gases or vapours
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	Biohazardous infectious materials – materials that contain organisms or their toxins that can cause disease in humans or animals.
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Symbols/Pictograms And Their Hazards

WHMIS After GHS Symbol/Pictogram	Types of Hazards
	Gases under pressure (e.g. compressed or liquefied)
	Flammables (gases, liquids, solids, aerosols, pyrophorics, self-heating)
	Oxidizers (liquids, solids, gases)
	Organic peroxides (explosive and flammable hazards)
	Acute toxicity (oral, skin, inhalation)
	Materials which, in contact with water, release toxic gases or vapours <i>Note: This is not a GHS hazard class but this class will likely be retained by WHMIS</i>
	Carcinogenicity; Mutagenicity; Respiratory sensitization; Reproductive toxicity; Specific target organ toxicity; Aspiration hazard
	Skin irritation; Eye irritation; Skin sensitization; Hazardous to the ozone layer
	Corrosive to metals; Skin corrosion; Serious eye damage;
	Self-reactive substances and mixtures
	Explosives
	Hazardous to the aquatic environment
WHMIS After GHS Symbol/Pictogram	
	Biohazardous infectious materials

Symbols/pictograms are based on the severity of the hazard. In some cases no pictogram will be required.



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Supplier Labels After GHS

The product label is the worker’s first source of information about the hazards of a product and how to use it safely to protect workers from adverse effects. In WHMIS after GHS, the labels of hazardous workplace products must display the information elements shown below.

Note: General labelling requirements

Supplier labels must be bilingual (English/French), easy to read, and durable. If the label is lost, damaged, or no longer readable, the product must be relabelled.

While a hatched border is not a GHS requirement, it is possible that a border may be required in WHMIS after GHS.

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1 Product Identifier

The product name exactly as it appears on the container and on the Safety Data Sheet.

2 Hazardous Ingredients (new)*

Include the chemical identity of the substance, mixture or alloy.
* Note: this may or may not be required on the label.

3 Hazard Symbols/Pictograms

Hazard symbols/pictograms, determined by the hazard classification of the product. In some cases, no pictogram is required.

4 Signal Words (new)

"Danger" or "Warning" are used to emphasize hazards and indicate the severity of the hazard.

5 Hazard Statements

Brief standardized statements of all hazards based on the hazard classification of the product.

6 Precautionary Statements

These statements describe recommended measures to minimize or prevent adverse effects from exposure to the product, including protective equipment and emergency measures. First aid is included in precautionary information.

7 SDS Reference*

Labels provide key information to alert users about critical hazards, precautions and first aid measures. The SDS contains more information on the safe use of the product.

* Note: this is not required under GHS but will likely be retained.

8 Supplier Identifier

The company which made or packaged the product, and is responsible for the label and SDS. Contact the supplier for additional product information.



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Safety Data Sheets

Safety Data Sheets (SDSs) will continue to be an essential component of WHMIS after GHS. Employers and workers use the information on an SDS to protect themselves from hazards and for safe handling and use.

SDS Section	Information Requirements (list is not complete)
1. Identification	Product identifier, recommended use and restrictions on use, supplier contact information, emergency phone number.
2. Hazard identification	Classification (hazard class and category), label elements including precautionary statements, other hazards (e.g. dust explosion hazard).
3. Composition/information on ingredients	Identities of ingredients (common chemical name, synonyms, CAS number, EC number, etc.) including impurities and stabilizing additives where classified, concentrations of ingredients of mixtures.
4. First-aid measures	First-aid measures by route of exposure as well as most important symptoms/effects.
5. Fire-fighting measures	Suitable (and unsuitable) extinguishing media, specific hazards, special equipment and precautions for fire fighters.
6. Accidental release measures	Protective equipment, emergency procedures, environmental precautions, methods and materials for containment and clean up.
7. Handling and storage	Precautions for safe handling, conditions for storage including any incompatibilities.
8. Exposure controls/personal protection	Exposure limits, engineering controls, personal protective equipment.
9. Physical and chemical properties	Appearance, odour, odour threshold, pH, melting/freezing point, boiling point and range, flashpoint, upper and lower flammable or explosive limits.
10. Stability and reactivity	Chemical stability, possible hazardous reactions, conditions to avoid, incompatible materials, hazardous decomposition products.
11. Toxicological information	Description of various toxic effects by route of entry, including effects of acute or chronic exposure, carcinogenicity, reproductive effects, respiratory sensitization.
12. Ecological information	Aquatic and terrestrial toxicity (where available), persistence and degradability, bioaccumulative potential, soil mobility.
13. Disposal considerations	Safe handling and methods of disposal including waste packaging.
14. Transport information	UN number and proper shipping name, hazard classes, packing group.
15. Regulatory information	Safety, health and environmental regulations specific to the product.
16. Other information	Other information including date of preparation of the latest revision of the SDS.

The 16-heading format (such as ANSI and ILO) is similar to that required by WHMIS after GHS.

It is anticipated that the SDS updating requirement will continue (every 3 years or when new significant information becomes available).

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