

WHMIS 2015



The
GHS
Globally Harmonized System
of Classification and Labeling of Chemicals



WHMIS 2015 Overview

WHMIS 2015 Introduction

Labels

Classifications

Safety Data Sheets (SDS)

Summary





Workplace Hazardous Material Information System

This is Canada's nation-wide workplace hazard communication standard which has been in effect since 1988.



IMPLEMENTATION OF GHS in CANADA.

(February of 2015 WHMIS was modified to align with Globally Harmonized System)

The goal of GHS is to standardize classification rules for dangerous goods as well as safety data sheets (SDS's) and supplier labels around the world in order to improve protection of human health and environmental awareness.

WHMIS 2015* has: *GHS, referred to as 'WHMIS 2015, was developed by the United Nations

- New hazard classes and new rules about classification
- A new standardized format for Safety Data Sheets
- New label requirements
- New hazard symbols/pictograms



The 3 Key Elements of WHMIS 2015

After a hazardous product has been classified, health and safety information about the product must be communicated within the workplace through a 3-part system that includes:

(Employers, Supervisors and workers – training, knowledge and hazard recognition)



Product Labels



Safety Data Sheets



Worker Education Programs

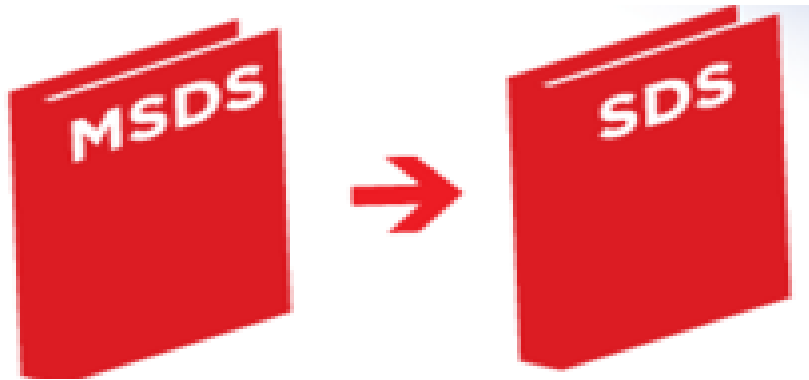
Together these key components ensure that everyone in the workplace have the information and knowledge necessary to store, handle, use and dispose of hazardous products safely.



How will GHS change WHMIS?

Safety Data Sheets

Material Safety Data Sheets (MSDS) will now be referred to as: Safety Data Sheets (SDS).



The GHS standardizes the minimum amount of information and formatting of SDSs into a strict 16-section document with a specific order



WHMIS 2015 Responsibilities

Everyone in the workplace has responsibilities under WHMIS:

- suppliers of hazardous products,
- employers and
- workers.



WHMIS 2015 Responsibilities



Supplier



Employer



Employees



WHMIS 2015 Responsibilities



Supplier

Who is a Supplier?

Those who:

- Manufacture,
- Import,
- Sell, or
- Distribute hazardous products

Note: An employer who imports or produces a hazardous product for their own use is considered to be the supplier of that hazardous product and must meet the supplier's responsibilities related to supplier labels and SDS's.



WHMIS 2015 Responsibilities

An employer must ensure:

- All containers of hazardous products in the workplace are properly labeled (supplier labels, workplace labels)
- SDS's are readily available for each hazardous product in the workplace
- Provide every worker who works with, or in proximity to a hazardous product, with general WHMIS education about product labels and SDS's, and
- Workplace specified training necessary to work safely with, or in proximity to, each hazardous product in their workplace



WHMIS 2015 Responsibilities

Employee's must:

- Participate in all training provided by the employer so that they understand how to read product labels and SDSs and know how to store, handle, use and dispose of specified hazardous products safely
- Consistently use the information and education they have been provided with in order to work safely with hazardous products, and
- Inform employers of any unsafe conditions related to the storage, handling, use or disposal of hazardous products in the workplace, including missing or damaged labels



Excluded products

WHMIS 2015 excludes:

- Explosives
- Cosmetic, device, drug or food
- Pest control products
- Consumer products
- Wood or products made of wood
- Nuclear substances which are radioactive
- Hazardous waste
- Tobacco and tobacco products
- Manufactured articles



Excluded products

WHMIS 2015 excludes:

Note:

- Many of these products are covered under other legislation
- It is important to note that while a product may be exempt from the requirement to have a WHMIS label and SDS, employers are still responsible for protecting the health and safety of workers, and must still provide education and training on health effects, safe use, and storage of exempt products.



Product Labels

WHMIS legislation requires that hazardous products in the workplace be properly labeled at all times.

Labels are the worker's first source of information about the hazards associated with a product.

The two main types of labels are:

- The supplier label, and
- The workplace label



Product Labels

- The supplier is responsible for labeling the hazardous products they provide
- Employers are responsible for making sure that the hazardous products that come into the workplace have
 - A supplier label, and
 - Are responsible for preparing and applying a workplace label, when required
- NEVER!
 - Use unlabeled materials
 - DO NOT assume that you know what the product is
 - If a container is unlabeled or has a damaged label, you must tell a supervisor
 - A workplace label should be created and attached to the product container before use



Supplier Labels

- Every hazardous product received at a Canadian workplace must have a supplier label attached to it.
- Supplier labels include the product name, pictogram, signal word, hazard statements, precautionary statements, and supplier information.
- Supplier labels must be written in English and French.

Labels must be easy to read, and durable.

- If the hazardous product is always used in the container with the supplier label, no other label is required.



Supplier Label Elements

5. Precautionary statements are standardized statements that describe measures to be taken to avoid exposure or to minimize the harmful effects of exposure. Precautionary statements can include instructions about storage, handling, first aid, personal protective equipment and emergency measures.

6. Some suppliers, for example, if the product is in high levels, then the label may include supplementary information such as GHS, physical state

The supplementary information

7. The label must include the name and address of the importer. There must also be a telephone number

Where the hazardous product is not being sold in Canada, the importer may retain the name, address and telephone number of the foreign supplier on the SDS instead of replacing it with their own contact information.

There are five types of precautionary statements:

General

Closed

Prevention

Response (including first aid)

Storage

Disposal

contents/container in accordance with local regulations.

(Supplier labels that are in accordance with WHMIS 1988 include precautionary statements but these statements are not harmonized with the GHS. WHMIS 1998 supplier labels include a separate section for first aid measures.)

Example: Keep container tightly closed

Example: Wear respiratory protection

Example: DO NOT induce vomiting

Example: Store in a dry place

Example: Dispose of contents/container in accordance with local regulations.

Where an importer imports a hazardous product for use in their own Canadian workplace, and is not selling the hazardous product, the importer may retain the name, address and telephone number of the foreign supplier on the SDS instead of replacing it with their own contact information.

Supplier Identifier



readable.

(Supplier labels that are in accordance with WHMIS 1988 include “risk phrases” instead of standardized hazard statements. The risk phrases are not harmonised with the GHS.)

Supplier Label Elements

Signal Words

There are two signal words in the GHS system: **DANGER** and **WARNING**. These words are used to communicate the level of hazard on both the label and the SDS. The appropriate signal word to use is set out by the classification system.

WARNING

DANGER

Check for Understanding

Supplier labels include...

(select all that apply)

Product Name

Pictogram

Signal Word

Hazard Statement

Precautionary Statements

Supplier Information



Updates to the Supplier Label

A label must be updated when the supplier becomes aware of any “significant new data”

Labels must be updated within 180 days of the supplier being aware of the new information. Customers who purchase the product within this 180-day period must be informed, in writing, about the changes, and the date they become available.



Exemptions

The Hazardous Products Regulations (HPR), allow suppliers and importers to be exempt from certain labels or SDS requirements, in some conditions.

This includes:

- **Small Capacity Containers** (100ml or less)
- **Outer Containers** (if inner container label is visible and legible through the outer container, or TDG label)
- **Bulk Shipment and Unpackaged Hazardous Products** (Bulk oil)
- **Complex Mixtures /Ingredients** (Commonly used generic name)
- **Symbol Repetition** (TDG Regulation symbol no need for pictogram)
- **In-Transit Products** (loaded outside of Canada – final destination outside of Canada)
- **Important to Bring into Compliance** (Compliance before resale)



Workplace Labels

A workplace label is required in certain situations:

- For hazardous products that are produced and used on site
- When the product is transferred from one container to another
- When workers are unable to read English or French
- To replace supplier labels that have been lost or damaged during transport.



A workplace label is not required when:

- The hazardous product is poured into a container and used immediately
- The hazardous product is poured into a container that remains “under the control of the person who decanted it”.



Workplace Labels

GHS Label

GHS Material
Danger!

Product name

Toxic If Swallowed, Flammable Liquid and Vapor

Do not eat, drink or use tobacco when using this product. Wash hands thoroughly after handling. Keep container tightly closed. Keep away from heat/sparks/open flame – No smoking. Wear protective gloves and eye/face protection. Ground container and receiving equipment. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Store in a cool/well-ventilated place.

SDS reference

Safe handling
information

Workplace labels should be written in the language that is most common in the workplace.



Hazard Classification

WHMIS 2015 arranges hazards into two major groups:

1. physical hazards and
2. health hazards.

Within each group are hazard classes. Classes are a way of grouping together products that have similar properties.

Some hazard classes may be divided into one or more categories and some may be further divided into sub-categories (1A, 1B, 2A and 2B, etc.).



Hazard Classification - Physical

Physical Hazard Classes (state)

- Flammable gases
- Flammable aerosols
- Oxidizing gases
- Gases under pressure
- Flammable liquids
- Flammable solids
- Self-reactive substances and mixtures
- Pyrophoric liquids
- Pyrophoric solids
- Self-heating substances and mixtures
- Substances and mixtures which, in contact with water, emit flammable gases
- Oxidizing liquids
- Oxidizing solids
- Organic peroxides
- Corrosive to metals
- Combustible dusts
- Simple asphyxiants
- Pyrophoric gases
- Physical hazards not otherwise classified



Hazard Classification – Health Hazard

Health Hazard Classes

- Acute toxicity
- Skin corrosion/irritation
- Serious eye damage/eye irritation
- Respiratory or skin sensitization
- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity – single exposure
- Specific target organ toxicity – repeated exposure
- Aspiration hazard
- Biohazardous infectious materials
- Health hazards not otherwise classified

The GHS also defines an Explosive class but this class was not included in WHMIS 2015.

In Canada, explosives are covered by other legislation.













How to Find the Hazard Class & Category

- The hazard class and category of a hazardous product will be provided in Section 2 of the SDS.
- Each hazard class or category must use specific pictograms and other label elements to indicate the hazard that is present, and what precautionary measures must be taken.
- Use the information provided by the label and SDS to be informed and to know how to safely use, handle, store and dispose of the hazardous product.



WHMIS 2015 Pictograms

	Exploding bomb (for explosion or reactivity hazards)		Flame (for fire hazards)		Flame over circle (for oxidizing hazards)
	Gas cylinder (for gases under pressure)		Corrosion (for corrosive damage to metals, as well as skin, eyes)		Skull and Crossbones (can cause death or toxicity with short exposure to small amounts)
	Health hazard (may cause or suspected of causing serious health effects)		Exclamation mark (may cause less serious health effects or damage the ozone layer*)		Environment* (may cause damage to the aquatic environment)
	Biohazardous Infectious Materials (for organisms or toxins that can cause diseases in people or animals)				

* The GHS system also defines an Environmental hazards group. This group (and its classes) was not adopted in WHMIS 2015. However, you may see the environmental classes listed on labels and Safety Data Sheets (SDSs). Including information about environmental hazards is allowed by WHMIS 2015.

Aquatic Toxicity

Environmental toxins are not regulated under WHMIS 2015.

However, you may still see the “dead tree/dead fish” pictogram on supplier labels or SDS's, especially for products imported from other countries. This symbol indicates aquatic toxicity.



Check for Understanding

Match the word to the Pictogram

(Choose the appropriate description in the box under each picture)



Acute Toxicity



Corrosive



Harmful/Irritant



Oxidizing



Health Hazard



Flammable

Health Hazard

Harmful/Irritant

Acute Toxicity

Corrosive

Flammable

Oxidizing

The Importance of SDS's

The Safety Data Sheet (SDS) is one of the three key elements of WHMIS, and the main source of information about a hazardous product. To comply with WHMIS, there must be an SDS available for every hazardous product in the workplace (Workplace WHMIS Inventory).

The SDS has more information about the hazardous product than the supplier label does and should be read by workers before they use the product for the first time.



The Importance of SDS's

The SDS tells you:

- Detailed information about the product, including who made it,
- The hazards associated with the product,
- How to use the product safely,
- What will happen if the hazard information is not followed,
- What to do if there is a workplace incident involving the product,
- How to recognize adverse health effects, and
- Spill control and disposal information



SDS Roles & Responsibilities



Supplier



Employer



Employees



The Safety Data Sheet (SDS)

(SDS) Sections

01  Identification	02  Hazard(s) identification	03  Composition/ information on ingredients	04  First-aid measures
05  Fire-fighting measures	06  Accidental release measures	07  Handling and storage	08  Exposure controls/ personal protection
09  Physical and chemical properties	10  Stability and reactivity	11  Toxicological information	12  Ecological information
13  Disposal considerations	14  Transport information	15  Regulatory information	16  Other information



The Safety Data Sheet (SDS) - Sections

Section 1: Identification

Identification of the substance or mixture and of the supplier identifies the product, provides information about recommended use and restrictions on use, and includes contact information for the supplier and an emergency phone number. The SDS will include the same product identifier that is used on the GHS product label and may also include other means of identification.

Section 2: Hazard identification

Hazard identification includes classification, label elements and information about other hazards.

Section 3: Composition/information on ingredients

Composition/information on ingredients provides the chemical identity for a substance, synonyms, CAS number, and other unique identifiers, impurities and stabilizing additives. If the hazardous product is a mixture, this section will include the chemical identity, synonyms, CAS and concentration for each ingredient that presents a health hazard.



The Safety Data Sheet (SDS) - Sections

Section 4: First-aid measures

First-aid measures describe first aid measures by route of exposure as well as by symptoms/effects.



Section 5: Fire-fighting measures

Fire-fighting measures provides information about what should and should not be used to extinguish a fire involving the product, identified specific hazards arising from the chemical, and lists special protective equipment and precautions for fire fighters.



Section 6: Accidental release measures

Accidental release measures provide information about protective equipment, emergency procedures, methods and materials for containment and clean up.



The Safety Data Sheet (SDS) - Sections

Section 7: Handling and storage

Handling and storage lists precautions for safe handling and the conditions for safe storage, including incompatibilities.

Section 8: Exposure controls/personal protection

Exposure controls/personal protection contains information about exposure limits, engineering controls and personal protective equipment.

Section 9: Physical and chemical properties

Physical and chemical properties, lists the chemical's characteristics, including:

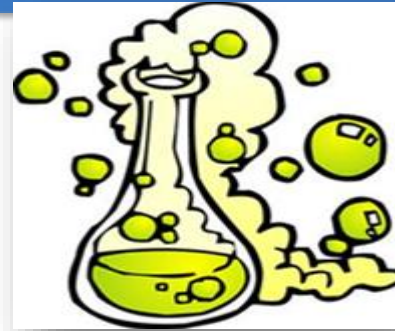
- Appearance
- Odor and odor threshold
- pH
- Melting point/freezing point
- Initial boiling point and boiling range
- Flash point
- Evaporation rate
- Flammability (solid, gas)
- Viscosity
- Upper/lower flammability or explosive limits
- Vapor pressure
- Vapor density
- Relative density
- Solubility
- Partition coefficient: n-octanol/water
- Auto-ignition temperature
- Decomposition temperature



The Safety Data Sheet (SDS) - Sections

Section 10: Stability and reactivity

Stability and reactivity provides information about reactivity, chemical stability, possible hazardous reactions, conditions to avoid, incompatible materials, and hazardous decomposition products.



Section 11: Toxicological information

Toxicological Information describes various toxic effects by route of entry, including effects of acute or toxic exposure, carcinogenicity, reproductive effects, and respiratory sensitization.



The Safety Data Sheet (SDS) - Sections

Sections 12-15 cover information related to the environment and transportation. Each of these sections requires the headings to be present on the SDS. The supplier has the option not to provide information in these sections.

Section 12: Ecological information

Ecological information includes information about aquatic and terrestrial toxicity, persistence and degradability, mobility in soil, and bio accumulative potential.

Section 13: Disposal considerations

Disposal considerations, describes safe handling and methods of disposal, including contaminated packaging

Section 14: Transport information

Transport information includes the UN number and proper shipping name, hazard classes, and packing group.

Section 15: Regulatory information

Regulatory information covers the safety, health and environmental regulations specific to the product.

Check for Understanding

Which of the following are not mandatory?

(select all that apply)

Identification (Name)

Regulatory information

Hazard Identification (Pictogram)

First Aid measures

Handling and Storage

Exposure controls/personal protection

Ecological Information



Check for Understanding

The first 11 sections of the SDS are mandatory and they must always be in the same order.

(Select the appropriate title and match it to the section).

Section 1 Identification (Name)

Section 2 Hazard Identification

Section 3 Composition/Info of Ingredients

Section 4 First Aid Measures

Section 5 Fire Fighting Measures

Section 6 Accidental Release Measures

Section 7 Handling & Storage

Section 8 Exposure Controls & PPE

Section 9 Physical & Chemical Properties

Section 10 Stability and Reactivity

Section 11 Toxicological Information

Toxicological Information

Stability and Reactivity

Identification (Name)

Hazard Identification

Physical & Chemical Properties

Fire Fighting Measures

Accidental Release Measures

Handling & Storage

First Aid Measures

Exposure Controls & PPE

Composition/Info of Ingredients

WHMIS 2015 Summary

As a worker, you are responsible for actively participating in all health and safety education and instruction presented by your employer, including WHMIS training.

WHMIS training should include both general education about WHMIS and workplace-specific WHMIS training related to each hazardous product you may work with, or in proximity to, during the workday.

