

WHMIS 2015 GHS



Workplace Hazardous Materials Information System

Workshop Objectives

When you complete this training, you should be able to:

- Apply knowledge of the Workplace Hazardous Materials Information System (WHMIS) in your workplace.
- Describe the different requirements for supplier and workplace labels.
- Find information on the Safety Data Sheet (SDS) to use the product safely in your work area.
- Explain the health and safety hazards you may encounter.
- Identify the WHMIS pictograms and the precautions to take when handling the product or material.
- Describe your rights and responsibilities as they relate to WHMIS.

What is WHMIS?

- **W**--Workplace
- **H**--Hazardous
- **M**--Materials
- **I**--Information
- **S**--System



What is GHS?

Canada has aligned WHMIS with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). GHS was developed by the United Nations to establish globally a common set of rules for classifying hazardous products, labels, and a standard format for Safety Data Sheets or SDSs (formerly known as Material Safety Data Sheets or MSDS).

GHS does not replace WHMIS.



Purpose of WHMIS

To protect the health and safety of everyone who works with or near hazardous workplace materials.



Who Enforces WHMIS Legislation?

WHMIS is enforced by the Labour Branch of Human Resources Development Canada for federal workplaces and by the provincial or territorial agencies responsible for occupational health and safety for most other workplaces.



What is a Hazardous Product?

A hazardous product is the name given to a product, material or substance that is capable of posing significant risk to health, safety and property. The products are regulated by WHMIS 2015 legislation and fall into one or more hazard classes – each uniquely identified by a pictogram for quick recognition.

WHMIS Main Elements

- Labels
 - Supplier Label
 - Workplace Label
- Safety Data Sheets (SDSs)
- Worker Education



Supplier Label

Product Identifier

Product K1 / Produit K1

Hazard Pictogram(s)



Signal Word (Danger or Warning)

Danger

Fatal if swallowed.
Causes skin irritation.

Precautions:

Wear protective gloves.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

Store locked up.
Dispose of contents/containers in accordance with local regulations.

IF ON SKIN: Wash with plenty of water.
If skin irritation occurs: Get medical advice or attention.
Take off contaminated clothing and wash it before reuse.

IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
Rinse mouth.

Supplier Information

Compagnie XYZ, 123 rue Machin St, Mytown, ON, N0N 0N0 (123) 456-7890

Danger

Mortel en cas d'ingestion.
Provoque une irritation cutanée.

Conseils :

Porter des gants de protection.
Se laver les mains soigneusement après manipulation.
Ne pas manger, boire ou fumer en manipulant ce produit.

Garder sous clef.
Éliminer le contenu/récipient conformément aux règlements locaux en vigueur.

EN CAS DE CONTACT AVEC LA PEAU : Rincer abondamment à l'eau.
En cas d'irritation cutanée : Demander un avis médical/consulter un médecin.
Enlever les vêtements contaminés et les laver avant réutilisation.

EN CAS D'INGESTION : Appeler immédiatement un CENTRE ANTIPOISON ou un médecin.
Rincer la bouche.

Hazard Statements

Precautionary Statements (including first-aid measures)

Supplier Label

Other Requirements:

Pictogram(s), signal word and hazard statement(s) must be grouped together on a label

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Enlever les vêtements contaminés et les laver avant réutilisation.
EN CAS D'INGESTION : Appeler immédiatement un CENTRE ANTIPOISON ou un médecin.
Rincer la bouche.

Easy to read and durable

Bilingual – English/
French

Workplace Label

Required when:

- The hazardous material is produced
- The supplier label becomes illegible or is accidentally removed
- The product is transferred from the supplier container to another container

Workplace Label

Label information:

- Product Identifier
- Safe Handling Precautions
- Reference to SDS

1. The product identifier
(matching the SDS product name)
2. Basic risk statement and safe handling precautions
3. A statement that a Safety Data Sheet is available

(1. PRODUCT IDENTIFIER)
GASOLINE
(2. PRECAUTIONARY/RISK STATEMENT)
HIGHLY FLAMMABLE
KEEP AWAY FROM OPEN FLAME
(3. REFERENCE TO SDS)
REFER TO SAFETY DATA SHEET FOR ADDITIONAL INFORMATION

Personal Protective Equipment (PPE)

Personal protective equipment (PPE) refers to protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer from injury.



SDS Contents

There are 16 sections in a SDS and must be in a set order.

- Section 1 - Identification
- Section 2 – Hazard Identification
- Section 3 – Composition/Information on Ingredients
- Section 4 – First-aid Measures
- Section 5 – Fire-fighting Measures
- Section 6 – Accidental Release Measures
- Section 7 – Handling and Storage
- Section 8 – Exposure Controls/Personal Protection

SDS Contents

- Section 9 – Physical and Chemical Properties
- Section 10 – Stability and Reactivity
- Section 11 – Toxicological Information
- Section 12 – Ecological Information
- Section 13 – Disposal Considerations
- Section 14 – Transport Information
- Section 15 – Regulatory Information
- Section 16 – Other Information

Health and Physical Hazards

Hazardous products can be harmful to your health if you do not limit your exposure to them.

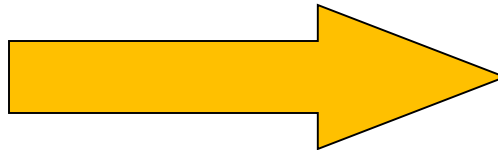
- A health hazard is the ability of a chemical to affect your health quickly (i.e., burn) or over a long period of time (i.e., cancer)
- A physical hazard is a sudden reaction such as a fire, explosion or corrosion. Physical hazards are controlled by handling chemicals properly.

The Ways to Control Exposure to Hazardous Materials are...

At the Source



Along the Path



At the Worker



Hazard Classifications

(Classes and Categories)

When a material is listed as a hazardous product, the manufacturer must treat the product according to WHMIS regulations. Part of this regulation is to classify it according to a hazard class.

The hazard class and category are a guide to the:











- Type of hazard
- Degree of hazard
- Precautions to follow

Pictograms

The hazard pictogram that appears on the supplier label and SDS is very important. It provides you with information about the primary hazard posed by a product. It also indicates whether the product is dangerous to touch or breathe, is easily combustible, unstable or reacts negatively (when mixed) with other materials.

Look for a pictogram that is framed by a red square set on a point. The exception is the biohazard pictogram which is in a round black border.

Pictograms

	Flame		Flame over circle
	Gas cylinder		Corrosion
	Exploding bomb		Health hazard
	Skull and crossbones		Exclamation mark
	Biohazardous Infectious Materials		Environment (not mandatory)

Flammable

(Flame Pictogram)

- Flammable gases (Category 1), flammable aerosols (Category 1 and 2), flammable liquids (Category 1, 2 and 3), and flammable solids (Category 1 and 2)
- Pyrophoric liquids, solids and gases (Category 1)
- Self-heating substances and mixtures (Category 1 and 2)
- Substances and mixtures in contact with water emit flammable/explosive gases (Category 1, 2 and 3)



Flammable

(Flame Pictogram)

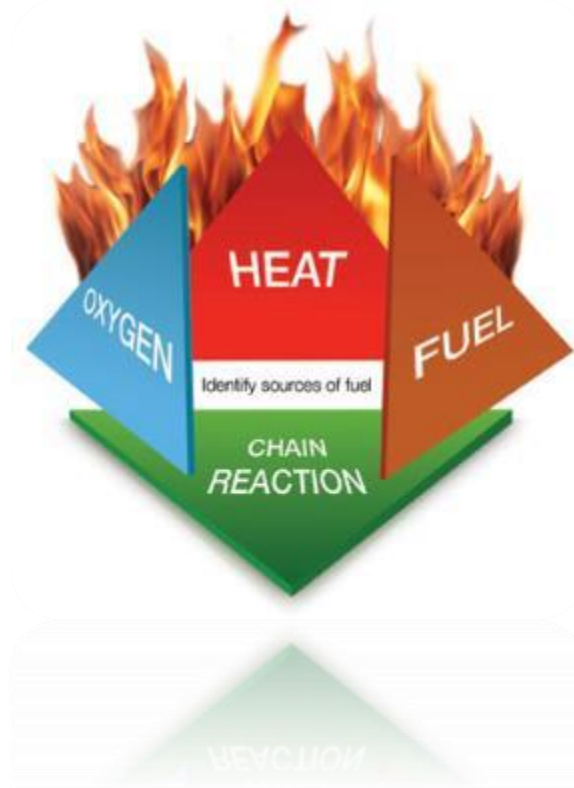
- Self-reactive substances and mixtures (Types B, C, D, E and F)
- Organic peroxides (Types B, C, D, E and F)



Examples of flammables that may be found at work and at home include: gasoline, propane, butane, and paint thinner.

Flammable Precautions

- Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources
- Wear protective gloves, protective clothing, eye protection, and face protection
- Work in well-ventilated areas
- Store in properly designated areas



Oxidizer

(Flame Over Circle Pictogram)

- Oxidizing gases (Category 1), oxidizing liquids (Category 1, 2 and 3), and oxidizing solids (Category 1, 2 and 3)

Examples of oxidizers that may be found at work and at home include: hydrogen peroxide, chlorine, and sodium chlorate.



Oxidizer Precautions

- Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources
- Wear protective gloves, eye protection, and face protection
- Store in proper containers which will not rust or oxidize

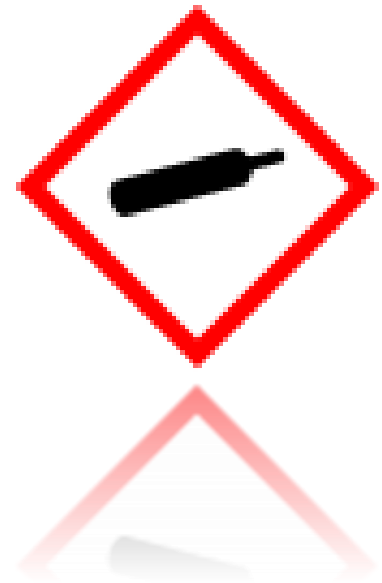


Compressed Gas

(Gas Cylinder Pictogram)

- Gases under pressure

Examples of gases under pressure that may be found at work and at home include: oxygen, propane, acetylene, and compressed air.



Compressed Gas Precautions

- Handle cylinders with care; do not drop them
- Keep cylinders away from direct heat like furnaces or open flames
- Store cylinders in areas designated by your supervisor (must be well-ventilated and dry)



Corrosive

(Corrosion Pictogram)

- Corrosive to metals (Category 1)

Examples of corrosives that may be found at work and at home include: battery acid, nitric acid, hydrochloric acid, and hydroxide solutions.



Corrosive Precautions

- Keep containers tightly closed
- Handle the material only when using appropriate protective clothing
- Handle the material in well-ventilated areas and wear proper respiratory equipment



Explosive

(Exploding Bomb Pictogram)

- Self-reactive substances and mixtures (Types A and B)
- Organic peroxides (Types A and B)

Examples of explosives that may be found at work include: A wide variety of chemicals which can explode under certain conditions – shock, pressure or high temperature; a smaller number are manufactured specifically for the purpose of being used as explosives.



Explosive Precautions

- Keep the material away from incompatible materials and store in the areas designated by your supervisor
- Keep the material away from sources of ignition
- Wear the proper protective equipment and clothing, including eye, face and hand protection



Other Physical Hazards

Include:

- Combustible dusts
- Simple asphyxiants
- Physical hazards not otherwise classified



This class is meant to cover any physical hazards that are not covered in any other physical hazard class. If a product is classified in this class, the hazard statement on the label and SDS will describe the nature of the hazard.

Health Hazards

- Respiratory or skin sensitization (Category 1, 1A and 1B)
- Germ cell mutagenicity (Category 1, 1A, 1B and 2)
- Carcinogenicity (Category 1, 1A, 1B and 2)
- Reproductive toxicity (Category 1, 1A, 1B and 2)



Health Hazards

- Specific target organ toxicity – single exposure (Category 1 and 2)
- Specific target organ toxicity – repeated exposure (Category 1 and 2)
- Aspiration hazard (Category 1)



Health Hazards

- Avoid breathing dust or vapours
- Avoid contact with skin or eyes
- Work in well-ventilated areas
- Wear appropriate personal protection
- Store products in designated areas



Other Health Hazards

Include:

- Health hazards not otherwise classified

This class covers products that are not included in any other health hazard class. If a product is classified in this class, the hazard statement will describe the nature of the hazard.

Toxic

(Skull and Crossbones Pictogram)

- Acute toxicity – Oral (Category 1, 2 and 3), Dermal (Category 1, 2 and 3) and Inhalation (Category 1, 2 and 3)

Acute toxicity refers to effects occurring following skin contact or ingestion exposure to a single dose, or multiple doses given within 24 hours, or an inhalation exposure of 4 hours.



Toxic Precautions

- Avoid breathing dust or vapours
- Avoid contact with skin or eyes
- Work in well-ventilated areas
- Wear appropriate personal protection
- Store products in designated areas



Irritant

(Exclamation Mark Pictogram)

- Acute toxicity – Oral, Dermal and Inhalation (Category 4)
- Skin corrosion/irritation (Category 2)
- Serious eye damage/irritation (Category 2 and 2A)



Irritant

(Exclamation Mark Pictogram)

- Respiratory or skin sensitization (Category 1, 1A and 1B)
- Specific target organ toxicity – repeated exposure (Category 3)



Irritant Precaution

- Avoid contact with skin or eyes
- Work in well-ventilated areas
- Wear appropriate personal protection
- Store products in designated areas



Biohazardous Infectious Materials

(Round Black Border Pictogram)

- Biohazardous infectious materials
(Category 1)



Did you notice the pictogram? It is the only pictogram with a round black border - all others are framed by a red square set on a point.



Biohazardous Infectious Materials Precautions

- Avoid contamination by wearing protective equipment
- Handle the material only when fully protected by the proper designated equipment
- Handle the material in designated areas that are approved by your supervisor



Environment

(Dead Tree/Dead Fish Pictogram)

- Hazardous to the aquatic environment and hazardous to the ozone layer

GHS also defines an Environmental hazards group. This group (and its classes) was not adopted by Canada in WHMIS 2015.

However, you may see the environmental classes listed on labels and SDSs, especially for products imported from other countries.



Consumer Product Symbols

Many products are made and packaged as household or consumer products, and their labelling is slightly different. Because household products **often get used in the workplace** – it's important to be familiar with these hazard symbols as well. Just because they are made for household use does not make these products any safer. Examples of consumer products:

- Drain cleaner
- Window cleaner
- Cleanser/disinfectant



Rights under WHMIS

Workers

- Know about any hazards that you and your co-workers could be exposed to in the workplace
- Refuse work that is unsafe
- Consult with your workplace's Joint Health and Safety Committee or Health and Safety Representative



Responsibilities Under WHMIS

Duties of a Worker

- Participate in training
- Apply knowledge and training
- Report damaged, illegible or missing labels or SDSs to your supervisor



Responsibilities Under WHMIS

Duties of the Employer:

- Implement the WHMIS program
- Maintain and make available Safety Data Sheets (SDSs)
- Train workers
- Maintain a chemical inventory of all hazardous materials in the workplace

Responsibilities Under WHMIS

Duties of the Supplier

- Classify Products (Hazardous/Non Hazardous)
- Apply Supplier Label
- Provide Safety Data Sheet for hazardous products
- Update sheet when new information becomes available



Stop and Consider

The key is to think before you act. **Stop and consider:**

- What materials you are working with
- What hazardous materials are present in the workplace
- Read the WHMIS labels on these products and their SDSs

Stop and Consider

- Know the potential dangers
- Understand how to use these materials to minimize risk
- How to clean up these products
- How to apply first-aid



DON'T HESITATE TO ASK YOUR SUPERVISOR IF YOU HAVE QUESTIONS!

Summary

There are far too many potentially hazardous materials and processes in workplaces to cover all of them in this session.

Be aware of what chemicals are in use in your workplace or work area, and how they are used.

Be sure you know the potential hazards of the products you handle, and how to protect yourself.

Questions ?

