WHMIS 2015 Awareness

AN AWARENESS PROGRAM ON THE UPDATED
Workplace Hazardous Materials Information System

WHMIS 1988 & WHMIS 2015

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WHMIS Overview

WHMIS Overview

WHMIS first came into effect on October 31, 1988. It was created to address the rights of Canadian workers, to know about health and safety hazards associated with chemicals that they use or may come in contact with in the workplace.

- In February 2015, Canada aligned WHMIS with the Globally Harmonized System of Classification and Labeling of Chemicals.
- GHS was developed as an international initiative to bring global standardization to chemical hazard classification and communication.
- While the adoption of GHS has resulted in some changes to the Workplace Hazardous Materials Information System, it offers the same, if not additional protection to workers.

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What is GHS?

GHS is an international initiative to standard chemical hazard classification and communication globally. GHS has been adopted by many of Canada's trading partners; including the USA.

WHMIS is a national hazard communication system that provides information on the safe use of hazardous products in Canadian workplaces. GHS has not replaced WHMIS. WHMIS has incorporated GHS elements, resulting in NEW standardized:

- Classification Criteria
- Label Requirements
- Safety Data Sheets (SDS) requirements (formerly known as MSDS)

LEGISLATION

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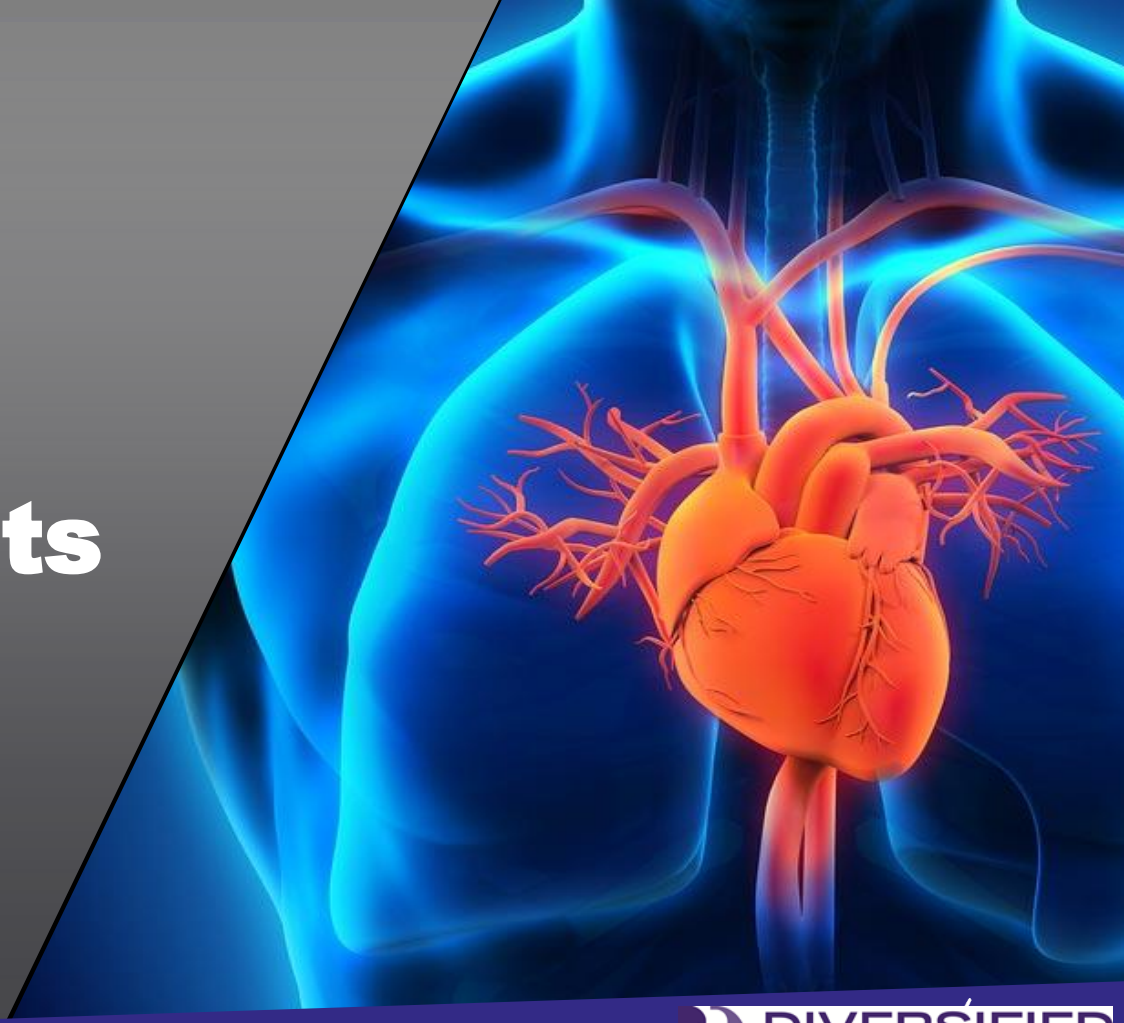
Federal and Provincial Law

Legislation

- The main purpose of the federal WHMIS legislation is to require the suppliers of hazardous materials used in the workplace to provide health and safety information about their products as a condition of sale.

- The main purpose of the provincial WHMIS legislation is to require employers to obtain health and safety information about hazardous materials in the workplace and to pass this information on to workers.

Health Effects



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Adverse Health Effects

The potential for hazardous products to be present in the workplace and cause or contribute to adverse health effects is a real concern.

Adverse effects can range from minor reversible effects to severe effects which are irreversible.

- → Acute Health Effects happen quickly, usually a short time after exposure
- → Chronic Health Effects happen slowly over time

Rights & Responsibilities

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Duties

WHMIS legislation defines that there are typically three primary parties which are required to adhere to particular duties & responsibilities pertaining to WHMIS.

- The Supplier
- The Buyer
- The Workers

Rights and Responsibilities

Supplier Duties	Employer Duties	Worker Duties
✓ Provide labels and Safety Data Sheets for all hazardous products that they import or manufacture	✓ Make sure that Safety Data Sheets are easy for workers to find and read ✓ Make sure that containers in the workplace are labeled ✓ Provide WHMIS training	✓ Participate in WHMIS Training ✓ Use their knowledge of WHMIS to work as safely as possible

Additionally, workers have the right to refuse work that they believe is dangerous, know about the hazardous products that they work with and consult with the JHSC or the Health and Safety Representative.

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Routes of Entry

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Inhalation

In order for a chemical to become hazardous to a person's health, it must first contact or enter the body, and the chemical must have some biological effect on the body. There are four primary *Routes of Entry.*

Inhalation

Inhalation may be the most common way in which hazardous materials can enter your body.

Dust, mist, fumes and vapors can be inhaled in through your nose or mouth and travel into your lungs where they can begin to cause damage and even enter into your blood stream.

Ingestion

Chemicals can easily be absorbed through your digestive system.

This can occur if you have hazardous materials on your hands while eating or smoking.

It's also possible to swallow chemicals if food is left uncovered in areas where there is a risk of exposure to the chemicals.

Absorption

Some hazardous materials can also enter your body by passing through your skin.

The severity of the harm also varies drastically depending on what type of chemical has contacted you.

Some hazardous materials will cause your skin to become very sensitive, while others may pass directly through the skin and into the blood stream.

Injection

Chemicals can enter the body and particularly the bloodstream through lacerations, punctures or syringe needles.

Hazard Classification, Symbols & Pictograms

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HAZARD GROUPS

Hazard Classification and Symbols/Pictograms

Physical Hazards

Classified according to their physical or chemical properties such as reactivity, flammability, compressed gases or corrosiveness.

Health Hazards

Classified in this group based on their ability to cause adverse health effects such as toxicity, respiratory sensitization, eye irritation or carcinogenicity.

Environmental Hazards

Exists in the GHS but has not been adopted into WHMIS 2015

PHYSICAL HAZARD CLASSES

Hazard Classification and Symbols/Pictograms

(19 Physical Hazard Classes)

Physical Hazard Classes

- All WHMIS 1988 **Hazard Classes** have been addressed in WHMIS 2015
- All **GHS Physical Hazard Classes** have been adopted with the exception of Explosive
- New Hazards Classes have been included into WHMIS 2015

Flammable gases
Flammable aerosols
Flammable liquids
Flammable solids

Oxidizing gases
Oxidizing liquids
Oxidizing solids

Gases under pressure

HEALTH HAZARD CLASSES

Hazard Classification and Symbols/Pictograms

(12 Health Hazard Classes)

Health Hazard Classes

- Skin corrosion / irritation
- Serious eye damage / eye irritation
- Acute toxicity

→ All of the **Health Hazard Classes** address the hazards that were covered in WHMIS 1988

→ The **Biohazardous Infectious Materials** Class is not a part of the GHS but was carried over from WHMIS 1988

Symbols & Pictograms

Even if you are just entering into the workforce, it's very likely that you have already seen some of the images displayed within symbols and pictograms.

These images can sometimes be found on household products that you buy often, and possibly use on a regular basis.

WHMIS 1988 Has Six Hazard Classes

WHMIS 2015 Pictograms

Hazard Classification and Symbols/Pictograms

Gas Cylinder

Flame

Flame Over Circle

Corrosion

Skull & Crossbones

Exclamation Mark

Health Hazard

Exploding Bomb

Environmental Hazard

Biohazardous Infectious Material

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KNOW THE WHMIS 2015 SYMBOLS

Biohazardous Infectious materials
For organisms or toxins that can cause diseases in people or animals

Harmful or fatal,
even in small quantities

May cause fire
or enhance the combustion of other materials

Flammable
Catches fire spontaneously if exposed to air or water

Health Hazard
May cause allergic reaction, cancer, birth defects, damage organs or harm fertility or unborn children

Harmful to environment
and/or aquatic life with long-lasting effects

Harmful
to skin, eyes, or respiratory system; fatal in large quantities

Gas under pressure
may explode if heated, punctured or dropped

Causes severe skin burns and eye damage
maybe corrosive to metal

Explosion Hazard
Risk due to fire, shock, friction, heat or puncture

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1988 SYMBOLS VS 2015 PICTOGRAMS

→ WHMIS pictograms are denoted by symbols inside red "diamond" shaped borders

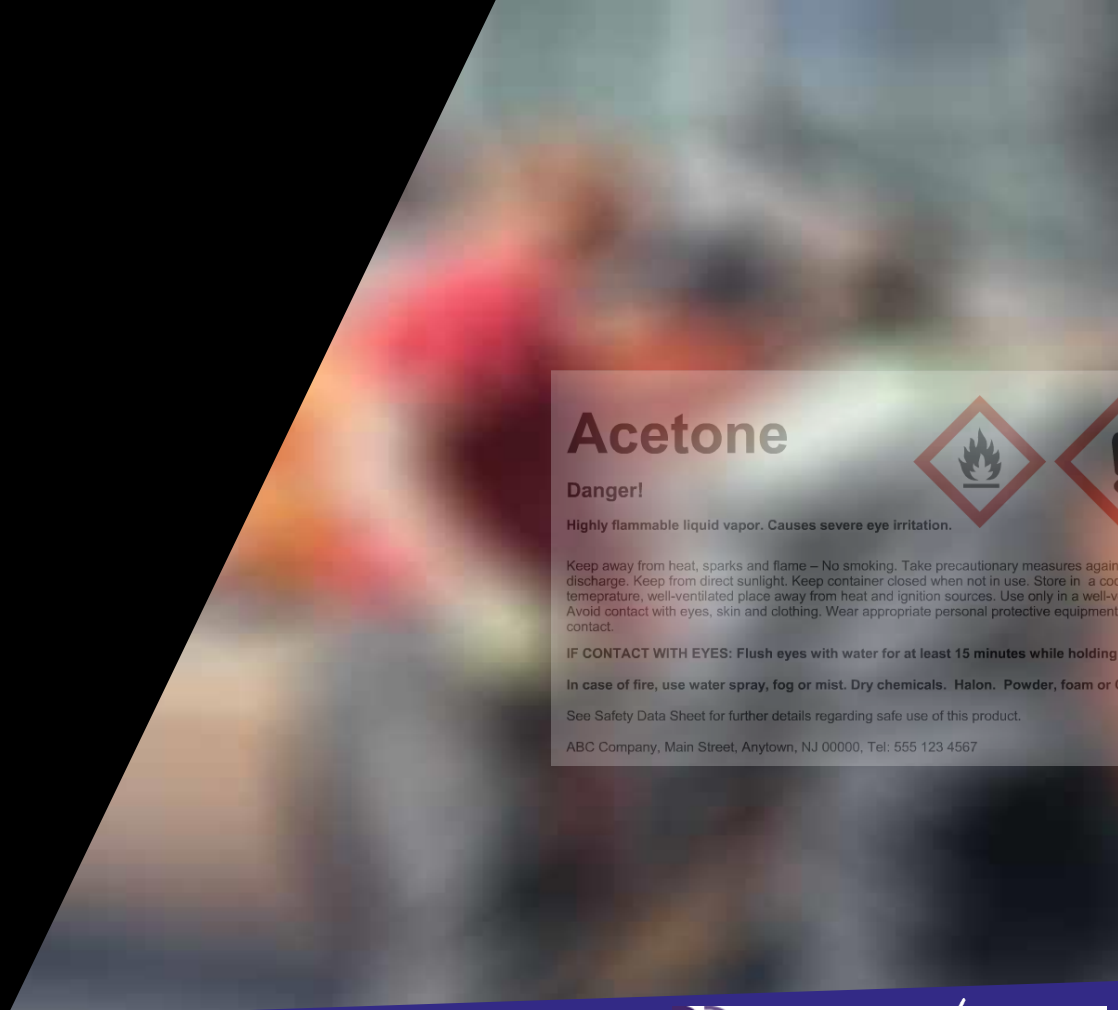
→ Some WHMIS 1988 symbols have been fully replaced and are non-existent in the new system

→ The red borders of WHMIS 2015 over the black images are more prominent

→ Pictograms are more specific

→ WHMIS 2015 pictograms are universally accepted

Labels



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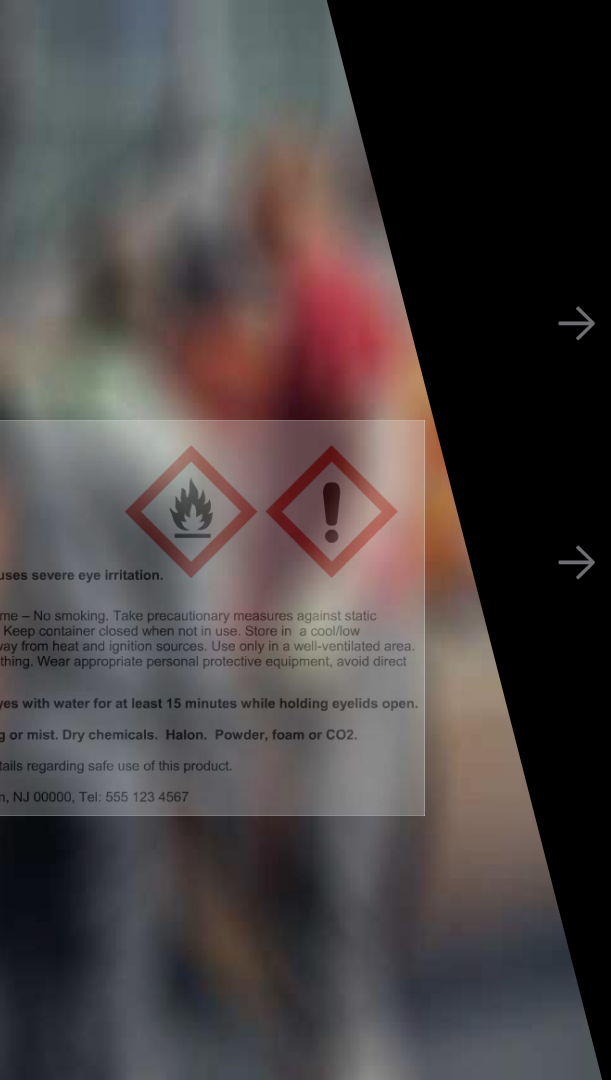
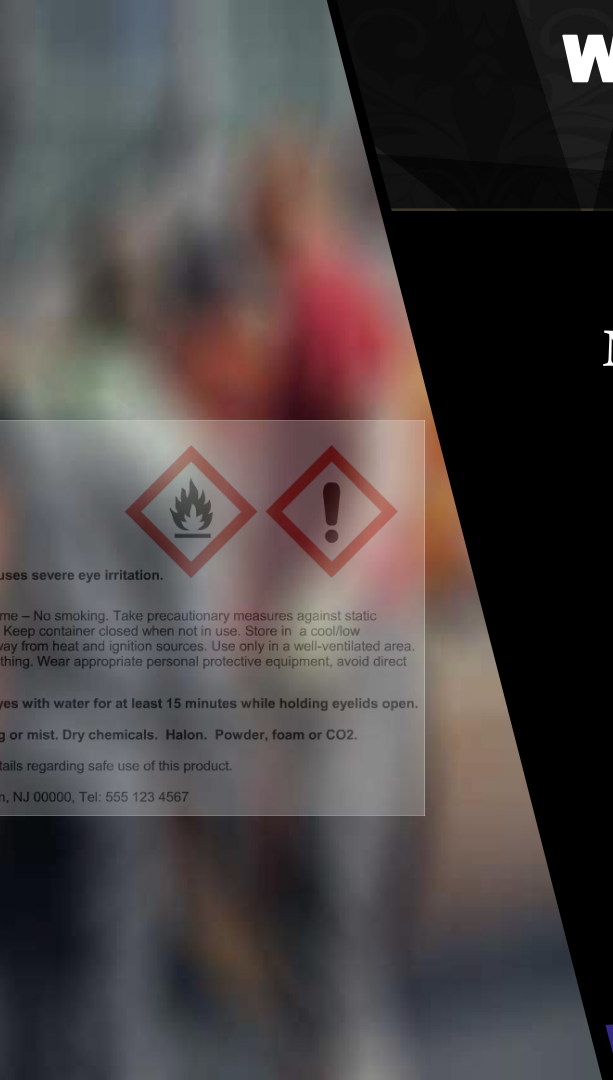
The Importance of Labels



- WHMIS Labels are extremely important because they are typically the first indication to an individual that there may be certain risks when working with a hazardous product
- WHMIS Labels also indicate what precautions need to be taken in order for a worker to protect themselves from illness or injury while working with a particular chemical

Who Applies Labels?



Manufacturers / Suppliers

Must add labels to their products prior to providing them to buyers

Employers

Must ensure that products that are being received into the workplace contain labels

Information Required on WHMIS 2015 Labels

Labels

Product Identifier

Signal Word

Hazard Statement

Precautionary Statement

Supplementary Information

SuperKleen 007

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.

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 : Laver 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.

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

Pictograms

Bilingual

Initial Supplier Identification

Supplier labels must be written in English and French. They may be bilingual (as one label), or available as two labels (one each in English and French)

Workplace Labels

Workplace labels will be used when:

- → The product is produced in a workplace and used in that workplace
- → The contents of the container were transferred from the original container to another container
- → The supplier label is missing or illegible

Workplace label requirements fall under provincial or territorial jurisdiction, or under the Canada Labour Code in a federally regulated workplace. Additional information may be required to be displayed on a workplace label other than the information above.

Workplace Labels

Labels

The following information must be displayed on a workplace label:

- → Product Name (matching the SDS)
- → Safe Handling Precautions
- → A Reference to the Safety Data Sheets

Workplace label requirements fall under provincial or territorial jurisdiction, or under the Canada Labour Code in a federally regulated workplace. Additional information may be required to be displayed on a workplace label other than the information above.

Safety Data Sheets

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INFORMATION CONTAINED IN THE SECTIONS OF A SAFETY DATA SHEET 1 OF 2

1. Identification

Identifies the chemical on the SDS as well as it's recommended uses. It also provides the essential contact information of the supplier.

2. Hazard Identification

Identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards.

3. Information/Composition on Ingredients

Identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives.

4. First Aid Measures

Describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical.

5. Fire Fighting Measures

Provides recommendations for fighting a fire caused by the chemical.

6. Accidental Release Measures

Provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure.

7. Handling and Storage

Provides guidance on the safe handling practices and conditions for safe storage of chemicals.

8. Exposure Controls / Personal Protection

Indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure.

Every product that is classified as a "hazardous product" under WHMIS, that is intended for use, handling or storage in a workplace in Canada, must have an SDS.

INFORMATION CONTAINED IN THE SECTIONS OF A SAFETY DATA SHEET 2 OF 2

9. Physical and Chemical Properties

Identifies physical and chemical properties associated with the substance or mixture.

10. Stability and Reactivity

Describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other.

11. Toxicological Information

Identifies toxicological and health effects information or indicates that such data are not available.

12. Ecological Information

Provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment.

13. Disposal Considerations

Provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices.

14. Transport Information

Provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea.

15. Regulatory Information

Identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS.

16. Other Information

Indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes.

Every product that is classified as a “hazardous product” under WHMIS, that is intended for use, handling or storage in a workplace in Canada, must have an SDS.

Education & Training

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Education & Training

- Adequate Education and Training is fundamental in ensuring that WHMIS works
- Any employer who has hazardous products in their workplace, must ensure that workers who may be exposed to those products are adequately trained
- There are two types of WHMIS training that must be satisfied

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General / Education

- What WHMIS is
- Duties and responsibilities
- How chemicals enter the body
- Adverse health effects
- Labels and what their required to display
- Pictograms
- How to read MSDS / SDS
- General safety guidelines

Workplace Specific

- Specific safety precautions
- Emergency procedures
- Handling and use requirements
- Required PPE, where to find and how it's used
- Specialized policies and procedures
- The meaning of all signal words and hazard statements on labels and SDS's in the workplace

Sometimes General WHMIS Training is referred to as WHMIS Education.

Protective Measures

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Protective Measures

The Hierarchy of Safeguarding Controls

Hierarchy of Safeguarding Controls is a system used in industry to minimize or eliminate exposure to hazards; in this case, chemical hazards. The hazard controls in the hierarchy are, in order of decreasing effectiveness.

- Elimination/Substitution
- Engineering
- Administration
- Personal Protective Equipment
- Hygiene

Hygiene is not typically considered a separate category on a general hierarchy, but has been added under the circumstances because it's directly applicable to chemical hazards.

Protective Measures & Safety Guidelines

Elimination or Substitution	Engineering	Administration	Hygiene	PPE (Personal Protective Equipment)
If a process that uses a hazardous chemical can be eliminated entirely, then the hazard will effectively no longer exist. This can be done using several methods including automating a process, thereby eliminating the need for an employee to come in contact a hazardous product. Similarly, if substitutions can be made, which mitigate the hazard entirely, the control is equally as effective as elimination.	Engineering controls are used to remove a hazard or place a "barrier" between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. Engineered ventilation systems can provide exceptional protection from certain chemical exposure.	Administrative Controls include work practices, policies, procedures, training and other guidelines that individuals must follow. While these may be less effective than eliminating the hazard altogether, they are an extremely important element in reducing the likelihood of an incident occurring. Several specific prevention techniques that are considered administrative controls are discussed throughout this training program.	Practicing good personal hygiene reduces the probability of toxic materials entering the body and even carrying the substance outside of the workplace. You should always wash thoroughly after being in situations where a possibility of exposure exists. PPE should not be worn outside of your work area to reduce the likelihood of transferring any harmful substance into other environments.	Personal protective equipment (PPE) can be considered a “last line of defense” in protecting oneself from the hazards associated with exposure to harmful chemicals. PPE includes important items such as safety glasses, respirators, gloves, face shields, coveralls and safety boots. Personal Protective Equipment should fit properly, be maintained regularly, and all employees should be trained in its proper storage, maintenance and use.