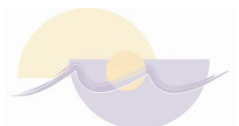


WHMIS 2015

The Global Harmonized System

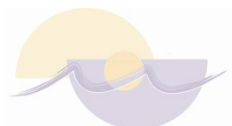
Occupational Health & Safety



What is WHMIS?

Workplace Hazardous Materials Information System (WHMIS)

- It is a comprehensive system for providing health and safety information on hazardous products intended for use, handling, or storage in Canadian workplaces
- Canada has aligned WHMIS with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)



What is WHMIS?

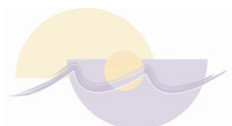
- Aligning with GHS provides many benefits:
 - Hazard classification criteria are more comprehensive which improves ability to indicate severity of hazards.
 - New hazard classes are included.
 - Physical hazard criteria are consistent with the Transport of Dangerous Goods (TDG regulations).
 - Standardized language (hazard and precautionary statements).
 - Standardized SDS format and more comprehensive requirements.



Roles and Responsibilities

SUPPLIERS

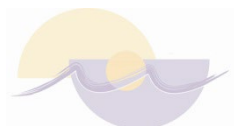
- Identify hazardous products
- Prepare the labels and (M)SDS's and provide them to the purchasers for intended use in the workplace



Roles and Responsibilities

Employers

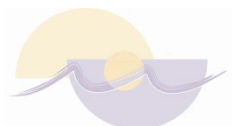
- Educate and train workers
- Prepare the labels and SDS's as needed
- Ensure proper labelling
- Appropriate control measures



Roles and Responsibilities

Workers

- participate in WHMIS and chemical safety training programs;
- take necessary steps to protect themselves and their co-workers; and,
- participate in identifying and controlling hazards.

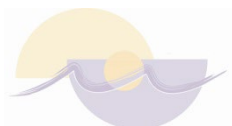


Three Elements of WHMIS

Labels: All hazardous materials must carry labels that clearly identify risks, and recommend precautions for safe handling.

Safety Data Sheets (SDS): A SDS contains much more detailed information about a material than is found on the label. A SDS must be provided for every hazardous material in your workplace. (Formerly called MSDS).

Worker Training: Employers are required to educate workers on how to use and interpret WHMIS information. Generic WHMIS training is an annual requirement in most

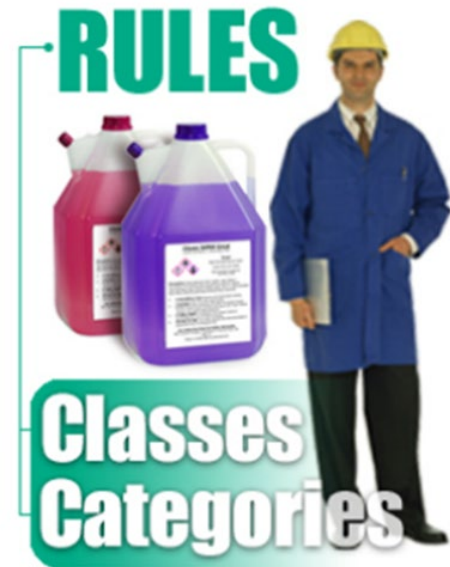


RULES, CLASSES AND CATEGORIES

The purpose of WHMIS is to:

Establish rules for classifying products into classes and categories.











Labels and safety data sheets (SDS) provide information about products according to the Criteria of the Hazardous Products Act and regulations.



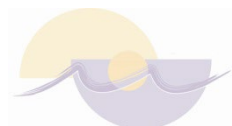
Hazards And Classes

WHMIS applies to hazardous materials known as **controlled products**.

A controlled product is any product that can be included in any of the following nine classes:

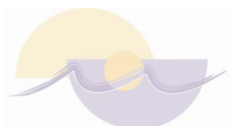
	Exploding bomb (for explosion or reactivity hazards)		Flame (for fire hazards)		Flame over circle (for oxidizing hazards)
	Gas cylinder (for gases under pressure)		Corrosion (for corrosive damage to metals, as well as skin, eyes)		Skull and Crossbones (can cause death or toxicity with short exposure 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.



Hazard Groups

- WHMIS applies to two major groups of hazards: physical, and health.
 - **Physical hazards group:** based on the physical or chemical properties of the product – such as flammability, reactivity, or corrosivity to metals.
 - **Health hazards group:** based on the ability of the product to cause a health effect – such as eye irritation, respiratory sensitization (may cause allergy or asthma symptoms or breathing difficulties if inhaled), or carcinogenicity (may cause cancer).



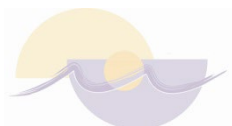
Hazard Class

- Hazard classes are a way of grouping together products that have similar properties.
- Most of the hazard classes are common to GHS and will be used worldwide by all countries that have adopted GHS.
 - Some hazard classes are specific to WHMIS.



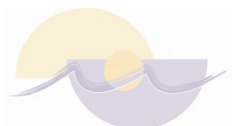
List of Physical Hazard Classes

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



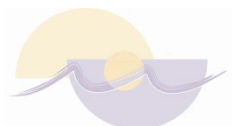
List of Health Hazard Classes

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



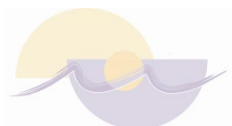
What is a hazard category?

- Each hazard class contains at least one category.
 - The hazard categories are assigned a number (e.g., 1, 2, etc.).
 - Categories may also be called "types".
 - Types are assigned an alphabetical letter (e.g., A, B, etc.). In a few cases, sub-categories are also specified. Subcategories are identified with a number and a letter (e.g., 1A and 1B).



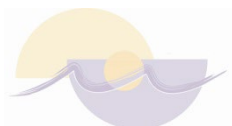
What is a hazard category?

- The category tells you about how hazardous the product is (that is, the severity of hazard).
 - Category 1 is always the greatest level of hazard (that is, it is the most hazardous within that class).
 - If Category 1 is further divided, Category 1A within the same hazard class is a greater hazard than category 1B.
 - Category 2 within the same hazard class is more hazardous than category 3, and so on.



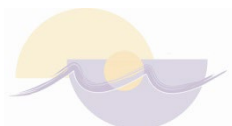
Criteria for type and amount of Training

- If the product is under WHMIS and is already used in the workplace, workers should already be trained to work with it safely.
- If the same product enters the workplace with WHMIS 2015 labels and safety data sheets, and workers know how to work with it safely, workers may continue to use the product but must be trained as soon as practicable on the content and format of the new supplier labels and safety data sheets.



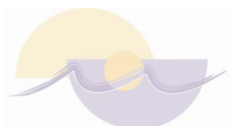
Is This a New Product or Newly Classified?

- products with WHMIS 1998 labels and material safety data sheets for as long as they are still used in the workplace; and,
- products with WHMIS 2015 labels and safety data sheets, as soon as practicable after these products enter the workplace and, in some cases, before they are used.



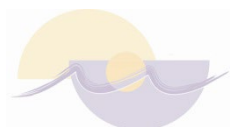
STOP!!

If a hazardous product enters the workplace with WHMIS 2015 labels and safety data sheets, and it was not previously used, You need to make sure you have the training before you use it!



WHMIS Controlled products fall into nine **'classes'**, some of which are further broken down into **'divisions'**. Each class or division has a unique distinctive hazard symbol.











Let's review each of these symbols!



Symbols

WHMIS applies to hazardous materials known as **controlled products**.

A controlled product is any product that can be included in any of the following nine classes:

	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.



The Flame Pictogram



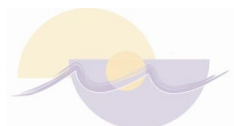
- Flammable gases (Category 1A and 1B Flammable gas; Category 1A and 1B Chemically unstable gas; Category 1A Pyrophoric gas))
- Aerosols (Category 1 and 2)
- Flammable liquids (Category 1, 2 and 3)
- Flammable solids (Category 1 and 2)
- Pyrophoric liquids (Category 1)
- Pyrophoric solids (Category 1)
- Self-heating substances and mixtures (Category 1 and 2)
- Substances and mixtures which, in contact with water, emit flammable gases (Category 1, 2 and 3)
- Self-reactive substances and mixtures (Types B*, C, D, E and F)
- Organic peroxides (Types B*, C, D, E and F)
- Chemicals under pressure (Category 1** and 2**)



The Flame Over Circle Pictogram



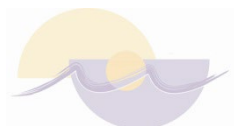
- Oxidizing gases (Category 1)
- Oxidizing liquids (Category 1, 2 and 3)
- Oxidizing solids (Category 1, 2 and 3)



The Gas Cylinder Pictogram



- Gases under pressure
 - (Compressed gas, Liquefied gas, Refrigerated liquefied gas, and Dissolved gas)
- Chemicals under pressure
 - (Category 1**, 2** and 3)



The Corrosion Pictogram



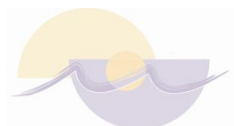
- Corrosive to metals (Category 1)
- Skin corrosion/irritation – Skin corrosion (Category 1, 1A, 1B and 1C)
- Serious eye damage/eye irritation – Serious eye damage (Category 1)



The Corrosion Pictogram



- Corrosive to metals (Category 1)
- Skin corrosion/irritation – Skin corrosion (Category 1, 1A, 1B and 1C)
- Serious eye damage/eye irritation – Serious eye damage (Category 1)



The Exploding Bomb Pictogram



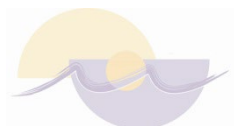
- Self-reactive substances and mixtures (Types A and B*)
- Organic peroxides (Types A and B*)



The Skull and Crossbones Pictogram



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



Health Hazard Pictogram



- Respiratory or skin sensitization – Respiratory sensitizer (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)
- Specific Target Organ Toxicity – Single exposure (Category 1 and 2)
- Specific Target Organ Toxicity – Repeated exposure (Category 1 and 2)
- Aspiration hazard (Category 1)



The Exclamation Mark Pictogram



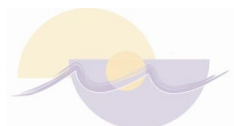
- Acute toxicity – Oral, Dermal, Inhalation (Category 4)
- Skin corrosion/irritation – Skin irritation (Category 2)
- Serious eye damage/eye irritation – Eye irritation (Category 2 and 2A)
- Respiratory or skin sensitization – Skin sensitizer (Category 1, 1A and 1B)
- Specific target organ toxicity – Single exposure (Category 3)



The Biohazardous Infectious Materials Pictogram

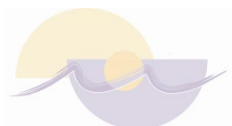


- Biohazardous Infectious Materials (Category 1)



Where will you find Pictograms?

- Pictograms will be on the product supplier labels of the hazardous materials you work with
- Pictograms will be on the SDSs



3 Types of Labels

PRODUCT IDENTIFIER

HAZARDOUS LABORATORY SAMPLE
For hazard information or in an emergency call

ÉCHANTILLON POUR LABORATOIRE DE PRODUIT DANGEREUX
Pour obtenir des renseignements sur les dangers ou en cas d'urgence, composez

Tel. _____

SUPPLIER IDENTIFIER

- **Lab**

- **Workplace**

ACETONE

Flammable

- Keep away from heat, sparks and flames
- Wear butyl rubber gloves and safety goggles
- Use with local exhaust ventilation

Safety Data Sheet Available

- **Supplier**

Product WSNB-1 / Produit WSNB-1

Danger
Fatal if swallowed.
Causes skin irritation.

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

Eviter tout contact avec la peau

Supplier Label
Etiquette du fournisseur

NETTOYANT XYZ CLEANER

Causes Burns
Very Toxic Material
Avoid Contact with Skin

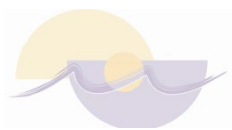
Causes des brûlures
Produit très toxique
Éviter tout contact avec la peau

In case of skin or eye contact, flush with copious amounts of water for 15 minutes and seek medical attention

En cas de contact avec la peau ou les yeux, laver à grande eau pendant 15 minutes et consulter un médecin.

See Material Safety Data Sheet
Voir la fiche signalétique

ABC Chemical Company Ltd.
Fabricant de produits chimiques ABC



Supplier Labels

1 → **Product WSNB-1 / Produit WSNB-1**

3 →

4 → **Danger**
Fatal if swallowed.
Causes skin irritation.

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

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

4 → **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.

2 → ABC Chemical Co., 123 rue Anywhere St., Mytown, ON NON ONO (123) 456-7890

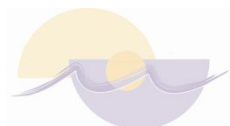
Danger
Mortel en cas d'ingestion.
Provoque une irritation cutanée.

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/réceptif 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.

1. Product Identifier
2. Initial Supplier Identifier
3. Pictogram(s)
4. Signal Word
5. Hazard Statement(s)
6. Precautionary Statement(s)
7. Label Information

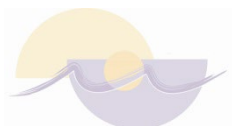


Workplace Labels

Affixed to a product in the workplace when the product is **decanted from a large container** to a smaller container, or when the original label is lost, damaged, or illegible.

Workplace labels are applied to:

- Secondary containers
- Containers of products received in bulk
- Employer-produced products
- Containers with missing or illegible supplier labels



Workplace Labels

1 → **ACETONE**

2 → **Flammable**

- Keep away from heat, sparks and flames
- Wear butyl rubber gloves and safety goggles
- Use with local exhaust ventilation

Safety Data Sheet Available ← **3**

- 1. Product Name**
- 2. Safe Handling Procedures**
- 3. Reference to the SDS**

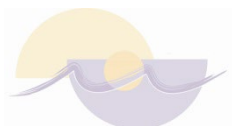


Safety Data Sheets

Safety Data Sheets (SDS) need to be available for all products under WHMIS and provide more detailed information than can be found on a label.

They must be updated when **new information is made available** by the supplier.

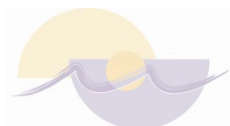
The format has a 16-section SDS with each section listed in a standardized order



MSDSonline

a velocityEHS solution

***MSDS ONLINE© provides updated (M)SDS on all our
products here at BCHS
The link is on the VSNet homepage on the WEBLINK list***



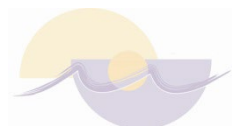
MSDSonline

a velocityEHS solution

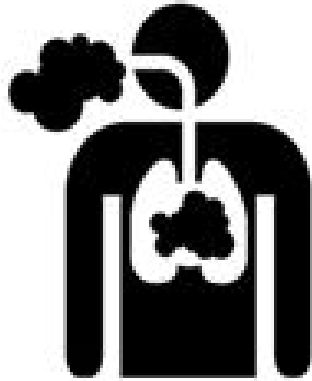
Search Products Here

The screenshot displays the MSDSonline web application interface. At the top, there are links for "Log In", "Edit Memory", and "Help Center". The main header features the "Brant Community Healthcare System" logo and the "MSDSonline" branding. Below the header, there are tabs for "Safety Center" and "MSDS Search". A left-hand navigation menu includes options for "All Products", "Locations", "Manufacturers", and "MSDSonline Search". The central "MSDS Search" section contains a search bar with the text "Search by Product Name, Manufacturer, CAS#, and/or Product Code or search by indexed fields, Ingredient, Ingredient CAS#, UNNA#, Dc" and a search icon. Below the search bar are three dropdown menus: "Locations" (set to "Brant Community Healthcare System (342)"), "Groups" (set to "Select Group"), and "Product Data" (set to "Select Product Data"). There is also a "Product Status" dropdown set to "Active" and a "Custom Module" text input field. "Search" and "Reset" buttons are located below the form. At the bottom of the search area, there is a "Product name starts with:" followed by a list of letters from A to Z and a "#+" symbol.

Search the department or group list or the total product list for the entire facility



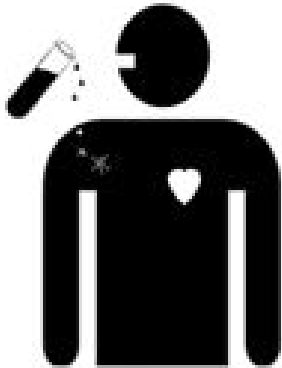
Routes of Entry



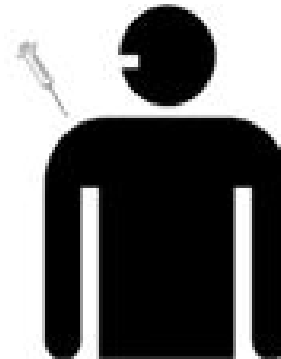
Inhalation



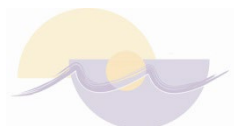
Ingestion



Absorption



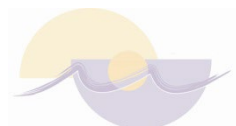
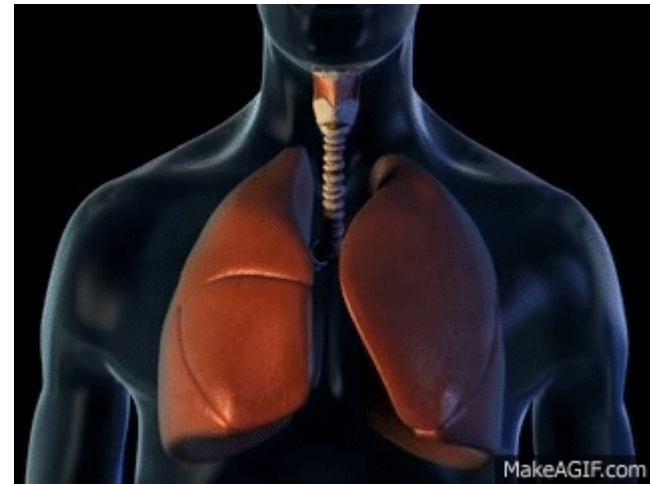
Injection/Penetration Wounds





Inhalation

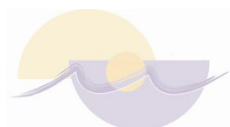
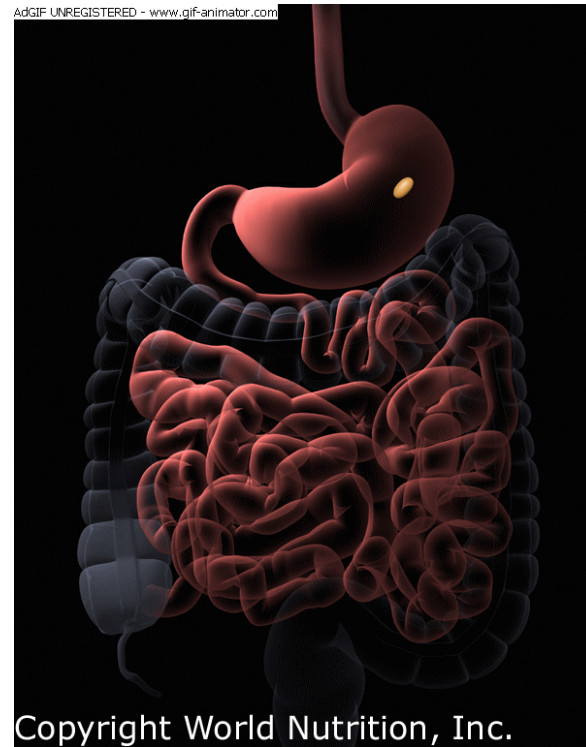
The material enters your body by breathing it in. Airborne contaminants can be easily absorbed through the tissue and become in constant contact with the air we breathe.





Ingestion

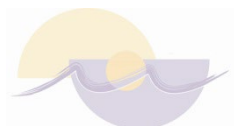
The material enters the body by mouth (swallowing). Toxic material entering the body by ingestion can occur from eating in a contaminated workplace.





Absorption

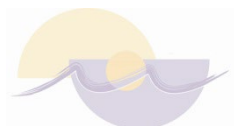
The material can be absorbed into the body through the eyes or skin causing dangerous effects.





Injection/Penetration Wounds

The material enter the body through an open wound or contaminated



Control of Hazards

Here are some ways to control exposure to hazardous substances:

1. Elimination – remove the hazard from the workplace.



2. Substitution – substitute hazardous materials or machines with less hazardous ones.



3. Safe Work Practices (Administrative Controls) – controlling the way the work is done, including timing, policies and rules, and work practices.



4. Ventilation (Engineering Controls) – eliminating atmospheric hazards or merely controlling them.

