

# Workplace Hazardous Materials Information System (WHMIS)



# Agenda

1. WHMIS Overview
2. Responsibilities
3. WHMIS 2015 Pictograms
4. Hazard Classes and Categories
5. Labelling Requirements
6. Safety Data Sheets
7. Hazard Control
8. Traditional Routes of Entry
9. Education and Training
10. Quiz

# What is WHMIS?

- It is a comprehensive, legislated program that ensures your "**Right to Know**" about the hazardous materials you are working with
- It came into effect as an Act of Parliament passed at the federal level on October 31, 1988
- Became law in the Spring of 1989
- Covers both provincial and federal workplaces across Canada
- WHMIS is incorporated into the Occupational Health & Safety Act as O. Reg 860
- WHMIS essentially stayed the same from 1988, but in 2015 a long awaited update took place
- WHMIS 1988 and WHMIS 2015 share many common elements, but some key differences.

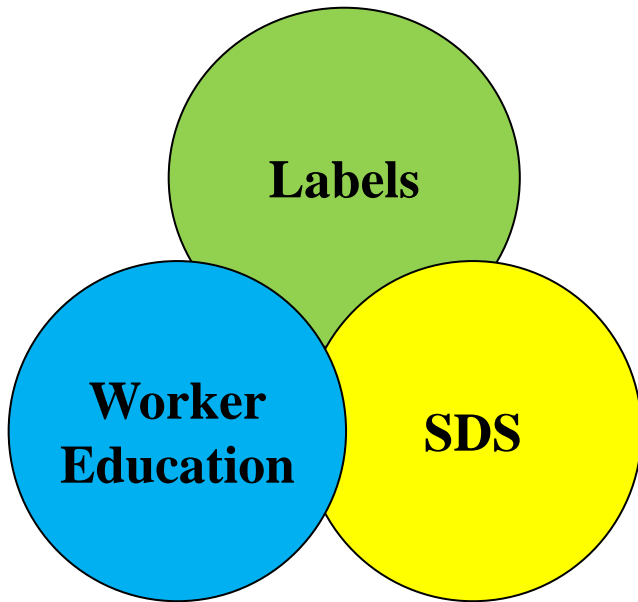
# Legal Brief

- Hurley Corporation, a Toronto company that provides janitorial services, was fined \$60,000 on February 17, 2011, for violating the Occupational Health and Safety Act by improperly storing chemicals.
- On March 6, 2009, a Hurley worker was attempting to clean the floor at Humber College's Etobicoke campus. The worker asked a supervisor to provide floor cleaner. The supervisor poured a floor cleaning chemical from a properly labelled commercial container into a water bottle and left the bottle on a table in the worker's area. There were no markings on the bottle to identify it as floor cleaner.

# Legal Brief

- The worker found the bottle, assumed it was filled with water, and drank from it. The worker felt a burning stomach, coughed up blood, vomited and briefly lost consciousness. The worker was hospitalized but released with no lasting effects from the chemical.
- Hurley Corporation pleaded guilty to failing to ensure that the floor cleaner was transferred into a container with a proper workplace label

# Components of WHMIS

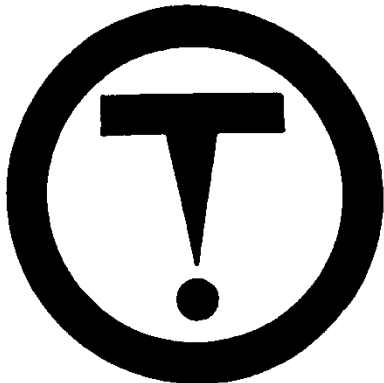
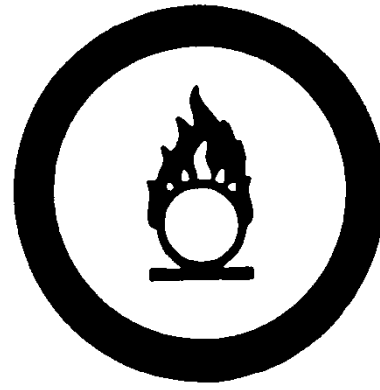
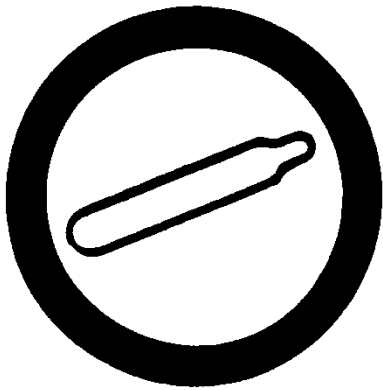


**Labels:** to alert the user to the dangers of the product and to the essential precautions for its safe use

**SDS:** detailed information about product composition, reactivity, health effects, protective equipment and procedures.

**Worker Education:** to understand hazards and associated safe work procedures for working with or working in the proximity of the controlled product.

# WHMIS 1988 Symbols



# WHMIS 2015

- Canada has aligned the Workplace Hazardous Materials Information System (WHMIS) with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
- This presentation discusses the WHMIS requirements after the alignment of WHMIS with the GHS. Information is based on the federal legislation - the amended [Hazardous Products Act](#) and the new [Hazardous Products Regulation](#) (HPR).
- Health Canada is the government body responsible for making the required changes to the overall federal WHMIS-related laws



# Changes in WHMIS 2015

- WHMIS has aligned with the worldwide hazard communication system known as GHS.
- Aligning with GHS provides many benefits, including:
  - 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.

# Components of WHMIS 2015

- The main components of WHMIS remain the same as before, and are as follows:
  - Hazard identification and product classification,
  - Labelling,
  - Safety Data Sheets, and
  - Worker education and training

# Status of WHMIS 2015

- The *Hazardous Products Regulations* were published in *Canada Gazette*, Part II on February 11, 2015. Both the amended *Hazardous Products Act* and new regulations are currently in force.
- In force means that suppliers may begin to use and follow the new requirements for labels and SDSs for hazardous products sold, distributed, or imported into Canada.
- The provincial WHMIS Regulation (O. Reg 860) will require updating.

# WHMIS 2015 Products

- If a product covered by the *Hazardous Products Act* meets the criteria to be included in a hazard class or category, it is considered to be a hazardous product
- All hazardous products used in the workplace are covered by the WHMIS regulations, and a WHMIS program, including education and training, must be in place.

# WHMIS 2015 Exempt Products

- Products exempt under WHMIS 2015 are:
  - Explosives as defined in the ***Explosives Act***.
  - Cosmetic, device, drug or food as defined in the ***Food and Drugs Act***.
  - Pest control products as defined in the ***Pest Control Products Act***.
  - Consumer products as defined in the ***Canada Consumer Product Safety Act***.
  - Wood or products made of wood.
  - Nuclear substances within the meaning of the ***Nuclear Safety and Control Act***, that are radioactive.
  - Hazardous waste being a hazardous product that is sold for recycling or recovery and is intended for disposal.
  - Tobacco and tobacco products as defined in the ***Tobacco Act***.
  - Manufactured articles.

# Supplier Responsibilities

- Suppliers must ensure the appropriate classification of hazardous products.
- When a product is considered to be a hazardous product, the supplier must label the product or container and they must provide a safety data sheet (SDS) to their customers.
- The purpose of the label is to clearly identify the hazardous product, the supplier, the hazards and precautionary measures. The SDS provides more information about that product

# Employer Responsibilities

- When a hazardous product is used in the workplace, employers are required to:
  - Educate and train workers on the hazards and safe use of products.
  - Ensure that hazardous products are properly labelled.
  - Prepare workplace labels, as needed.
  - Prepare SDSs, as necessary (e.g., if an employer manufactures a hazardous product that is used on-site).
  - Provide access to up-to-date SDSs to workers.
  - Ensure appropriate control measures are in place to protect the health and safety of workers.

# Worker Responsibilities











- Workers must participate in WHMIS education and training programs, take necessary steps to protect themselves and their co-workers, and participate in identifying and controlling hazards.



# WHMIS 2015 Pictograms

- Most pictograms used in WHMIS 2015 have a distinctive red "square set on one of its points" border. Inside this border is a symbol that represents the potential hazard (e.g., fire, health hazard, corrosive, etc.). Together, the symbol and the border are referred to as a pictogram.
- Pictograms will be on the product supplier labels of the hazardous products you work with. They will also be on the SDSs (as the symbol or words that describe the symbol)
- The following slides will detail the hazard classes and categories, including the use of pictograms.

# WHMIS 2015 Pictograms

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

# Hazard Classes and Categories

- WHMIS 2015 applies to **two major groups of hazards**: physical, and health. Each hazard group includes hazard classes that have specific hazardous properties.
  - **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).
  - GHS 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).

# Hazard Classes and Categories

- 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 2015

# Hazard Classes and Categories

## • Physical Hazards

- 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

## • Physical Hazards

- Oxidizing liquids
- Oxidizing solids
- Organic peroxides
- Corrosive to metals
- Combustible dusts
- Simple asphyxiants
- Pyrophoric gases
- Physical hazards not otherwise classified

# Hazard Classes and Categories

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

# Hazard Categories

- 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)
- Some hazard classes have only one category (e.g., corrosive to metals), others may have two categories (e.g., carcinogenicity (cancer)) or three categories (e.g., oxidizing liquids). There are a few hazard classes with five or more categories (e.g., organic peroxides)

# Hazard Categories

- The Hazard Category tells you about how hazardous the product is (that is, the severity of hazard).
- Category 1 is **always** the greatest level of hazard within its 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.
- **There are a few exceptions to this rule.** For example, for the Gases under pressure hazard class, the hazard categories are "Compressed gas", "Liquefied gas", "Refrigerated liquefied gas" and "Dissolved gas". These classes relate to the physical state of the gas when packaged and do not describe the degree of hazard.



- What are the main concerns for each physical hazard class?

Hazard Class	General Description
Flammable gases Flammable aerosols Flammable liquids Flammable solids	These four classes cover products that have the ability to ignite (catch fire) easily and the main hazards are fire or explosion.
Oxidizing gases Oxidizing liquids Oxidizing solids	These three classes cover oxidizers, which may cause or intensify a fire or cause a fire or explosion.
Gases under pressure	This class includes compressed gases, liquefied gases, dissolved gases and refrigerated liquefied gases. Compressed gases, liquefied gases and dissolved gases are hazardous because of the high pressure inside the cylinder or container. The cylinder or container may explode if heated. Refrigerated liquefied gases are very cold and can cause severe cold (cryogenic) burns or injury.
Self-reactive substances and mixtures	These products may react on their own to cause a fire or explosion, or may cause a fire or explosion if heated.
Pyrophoric liquids Pyrophoric solids Pyrophoric gases	These products can catch fire very quickly (spontaneously) if exposed to air.
Self-heating substances and mixtures	These products may catch fire if exposed to air. These products differ from pyrophoric liquids or solids in that they will ignite only after a longer period of time or when in large amounts.
Substances and mixtures which, in contact with water, emit flammable gases	As the class name suggests, these products react with water to release flammable gases. In some cases, the flammable gases may ignite very quickly (spontaneously).
Organic peroxides	These products may cause a fire or explosion if heated.
Corrosive to metals	These products may be corrosive (chemically damage or destroy) to metals.
Combustible dust	This class is used to warn of products that are finely divided solid particles. If dispersed in air, the particles may catch fire or explode if ignited.
Simple asphyxiants	These products are gases that may displace oxygen in air and cause rapid suffocation.
Physical hazards not otherwise classified	This class is meant to cover any physical hazards that are not covered in any other physical hazard class. These hazards must have the characteristic of occurring by chemical reaction and result in the serious injury or death of a person at the time the reaction occurs. If a product is classified in this class, the hazard statement on the label and SDS will describe the nature of the hazard.

- What are the main concerns for each health hazard class?

Hazard Class	General Description
Acute toxicity	These products are fatal, toxic or harmful if inhaled, following skin contact, or if swallowed. 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. Acute toxicity could result from exposure to the product itself, or to a product that, upon contact with water, releases a gaseous substance that is able to cause acute toxicity.
Skin corrosion/irritation	This class covers products that cause severe skin burns (i.e., corrosion) and products that cause skin irritation.
Serious eye damage/eye irritation	This class covers products that cause serious eye damage (i.e., corrosion) and products that eye irritation.
Respiratory or skin sensitization	A respiratory sensitizer is a product that may cause allergy or asthma symptoms or breathing difficulties if inhaled. Skin sensitizer is a product that may cause an allergic skin reaction.
Germ cell mutagenicity	This hazard class includes products that may cause or are suspected of causing genetic defects (permanent changes (mutations) to body cells that can be passed on to future generations).
Carcinogenicity	This hazard class includes products that may cause or are suspected of causing cancer.
Reproductive toxicity	This hazard class includes products that may damage or are suspected of damaging fertility or the unborn child (baby). Note: There is an additional category which includes products that may cause harm to breast-fed children.
Specific target organ toxicity – single exposure	This hazard class covers products that cause or may cause damage to organs (e.g., liver, kidneys, or blood) following a single exposure. This class also includes a category for products that cause respiratory irritation or drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	This hazard class covers products that cause or may cause damage to organs (e.g., liver, kidneys, or blood) following prolonged or repeated exposure.
Aspiration hazard	This hazard class is for products that may be fatal if they are swallowed and enter the airways.
Biohazardous infectious materials	These materials are microorganisms, nucleic acids or proteins that cause or is a probably cause of infection, with or without toxicity, in humans or animals.
Health hazards not otherwise classified	This class covers products that are not included in any other health hazard class. These hazards have the characteristic of occurring following acute or repeated exposure and have an adverse effect on the health of a person exposed to it - including an injury or resulting in the death of that person. If a product is classified in this class, the hazard statement will describe the nature of the hazard.



# Hazard Classes (Physical)

- The **flame** pictogram is used for the following classes and categories:
  - Flammable gases (Category 1)
  - Flammable 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)
  - Pyrophoric gases (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)



# Hazard Classes (Physical)

- The **flame over circle** pictogram is used for the following classes and categories:
  - Oxidizing gases (Category 1)
  - Oxidizing liquids (Category 1, 2 and 3)
  - Oxidizing solids (Category 1, 2 and 3)



# Hazard Classes (Physical)

- The gas cylinder pictogram is used for the following classes and categories:
  - Gases under pressure (Compressed gas, Liquefied gas, Refrigerated liquefied gas, and Dissolved gas)



# Hazard Classes (Physical & Health)

- The **corrosion** pictogram is used for the following classes and categories:
  - 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)\*\*

\* Physical Hazard

\*\* Health Hazard



# Hazard Classes (Physical)

- The **exploding bomb** pictogram is used for the following classes and categories:
  - Self-reactive substances and mixtures (Types A and B\*)
  - Organic peroxides (Types A and B\*)

\* Both the Flame **and** Explosive pictogram are used for Self-reactive substances and mixtures (Type B) and Organic peroxides (Type B)



# Hazard Classes (Health)

- The **skull and crossbones** pictogram is used for the following classes and categories:
  - Acute toxicity -
    - Oral (Category 1, 2 and 3)
    - Dermal (Category 1, 2 and 3)
    - Inhalation (Category 1, 2 and 3)





# Hazard Classes (Health)

- The **health hazard** pictogram is used for the following classes and categories:
  - 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)



# Hazard Classes (Health)

- The **exclamation mark** pictogram is used for the following classes and categories:
  - 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)



# Hazard Classes (Health)

- The **biohazardous infectious materials** pictogram is used for the following classes and categories:
  - Biohazardous Infectious Materials (Category 1)

# Hazard Classes

- WHMIS 2015 classes and categories that do not require a pictogram are as follows:
  - Flammable gases - Category 2
  - Flammable liquids - Category 4
  - Self-reactive substances and mixtures - Type G
  - Organic peroxides - Type G
  - Combustible dusts - Category 1
  - Simple Asphyxiants - Category 1
  - Serious eye damage/eye irritation - Eye Irritation - Category 2B
  - Reproductive toxicity - Effects on or via lactation
- Other Labelling and SDS requirements remain for these products


# WHMIS 2015 Labels

- Labels are the first alert to the user about the major hazards associated with that product, and outline the basic precautions or safety steps that should be taken
- In most cases, suppliers are responsible for labelling the hazardous products that they provide to customers.
- Employers are responsible for making sure that hazardous products that come into the workplace are labelled and to prepare and apply a workplace label when appropriate.
- As with previous WHMIS legislation, there are two main types of WHMIS label; **Supplier** and **Workplace**
- Under WHMIS 2015, the Supplier Label has dropped its distinctive hatched border

# Supplier Labels

- A supplier label is provided or affixed (attached) by the supplier and will appear on all hazardous products received at a workplace in Canada
- The supplier label must include the following information:
  1. **Product identifier** - the brand name, chemical name, common name, generic name or trade name of the hazardous product.
  2. **Initial supplier identifier** – the name, address and telephone number of either the Canadian manufacturer or the Canadian importer\*.
  3. **Pictogram(s)** – hazard symbol within a red "square set on one of its points".
  4. **Signal word** – a word used to alert the reader to a potential hazard and to indicate the severity of the hazard.
  5. **Hazard statement(s)** - standardized phrases which describe the nature of the hazard posed by a hazardous product.
  6. **Precautionary statement(s)** – standardized phrases that describe measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper handling or storage of a hazardous product.
  7. **Supplemental label information** - some supplemental label information is required based on the classification of the product. For example, the label for a mixture containing ingredients with unknown toxicity in amounts higher than 1% must include a statement indicating the percent of the ingredient or ingredients with unknown toxicity. Labels may also include supplementary information about precautionary actions, hazards not yet included in the GHS, physical state, or route of exposure. This information must not contradict or detract from the standardized information

# Supplier Labels

<b>Product K1 / Produit K1</b>	
	
<b>Danger</b>	<b>Danger</b>
Fatal if swallowed. Causes skin irritation.	Mortel en cas d'ingestion. Provoque une irritation cutanée.
<b>Precautions:</b> 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.	<b>Conseils :</b> 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.
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.	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	

Product Identifier

Supplier Identifier

Pictogram(s)

Signal Word

Hazard Statement(s)

Precautionary Statement(s)

Supplemental Label Information

# Workplace Labels

- A workplace label is one that the employer produces and is only for use in the employer's workplace
- It is affixed in the workplace by the user when decanting from the original container into a smaller container, or if the original supplier label is missing or illegible
- Workplace labels must include the following three pieces of information:
  - Product Name
  - Safe Handling Instruction
  - Reference to SDS

Acetone
Keep away from heat, sparks, and flames. Wear safety goggles and butyl rubber gloves. Use with local exhaust ventilation.
SDS available



# SDS (Safety Data Sheets)

- Safety Data Sheets (SDSs) are summary documents that provide information about the hazards of a product and advice about safety precautions.
- SDSs provide more detailed hazard information about the product than the label. They are an important resource for workplaces and workers to help you learn more about the product(s) used.
- SDSs tell users what the hazards of the product are, how to use the product safely, what to expect if the recommendations are not followed, how to recognize symptoms of exposure, and what to do if emergencies occur.
- 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.
- Under WHMIS 1988, the SDS, formerly MSDS, needed to have a minimum of nine (9) sections, and be updated at least every three years.

# SDS (Safety Data Sheets)

- Under WHMIS 2015 an SDS must now contain a minimum of 16 sections, which are as follows:
  1. Identification
    - Name of product
    - Name and address of supplier/manufacturer
    - Recommended use
    - Emergency telephone information
  2. Hazard Identification
    - Hazard classification
    - Label elements, such as the SIGNAL word and hazard statement(s)
  3. Composition/Information on ingredients
    - Chemical name
    - Common name and synonyms
    - CAS number
    - Concentration

# SDS (Safety Data Sheets)

## 4. First Aid Measures

- First aid measures by route of exposure
  - Inhalation
  - Ingestion
  - Skin contact
  - Eye contact

## 5. Fire-fighting Measures

- Suitable extinguishing media
- Unsuitable extinguishing media
- Specific hazards arising from the hazardous product (e.g., hazardous combustion products)
- Special protective equipment and precautions for fire-fighters

# SDS (Safety Data Sheets)

## 6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures
- Methods and materials for containment and cleaning up

## 7. Handling and Storage

- Precautions for safe handling and storage

## 8. Exposure Controls/Personal Protection

- Occupational exposure guidelines (ACGIH etc.)
- Any required engineering controls
- Use of appropriate personal protective equipment (PPE)

# SDS (Safety Data Sheets)

## 9. Physical and Chemical Properties

- Appearance
- Odour
- Odour threshold
- pH; etc.

## 10. Stability and Reactivity

- Reactivity
- Chemical stability
- Possibility of hazardous reactions
- Conditions to avoid (e.g., static discharge, shock, or vibration)
- Incompatible materials
- Hazardous decomposition products

# SDS (Safety Data Sheets)

## 11. Toxicological Information

- Description of the various toxic effects and information on likely routes of exposure

## 12. Ecological Information\*

- Ecotoxicity information and other information about potential adverse effects on the environment

## 13. Disposal Considerations\*

- Information on safe handling for disposal and methods

## 14. Transport Information\*

- UN Number
- UN shipping name
- Packing Group
- Other TDG information

# SDS (Safety Data Sheets)

## 15. Regulatory Information\*

- Safety, health and environmental regulations specific to the product

## 16. Other Information

- Date of SDS revision and any other pertinent information
  
- Sections 12-15 are required to be present on the SDS, but under the current Canadian regulations, the supplier has the option to not provide this information.

# SDS (Safety Data Sheets)

- SDS must be accurate at the time of sale
- SDS must be updated whenever the supplier becomes aware of any 'significant new data'
- The Hazardous Products Regulations define 'significant new data' as the following:
  - *New data regarding the hazard presented by a hazardous product that changes its classification in a category or subcategory of a hazard class, or result in its classification in another hazard class, or change the ways to protect against the hazard presented by the hazardous product.*
- SDS must now be updated within 90 days of the supplier becoming aware of the new information.
- SDS no longer have to be updated automatically every three years if no changes



# SDS (Safety Data Sheets)

- Any person working with hazardous chemicals in the workplace should be familiar with the hazards **before** use.
- You can think of the SDS as having four main purposes. It provides information on:
  - **Identification:** for the product and supplier.
  - **Hazards:** physical (fire and reactivity) and health.
  - **Prevention:** steps you can take to work safely, reduce or prevent exposure, or in an emergency.
  - **Response:** appropriate responses in various situations (e.g., first-aid, fire, accidental release)

# Hazard Control

The main ways to control a hazard include:

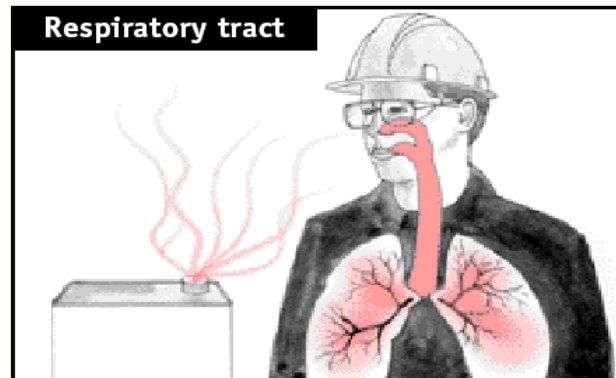
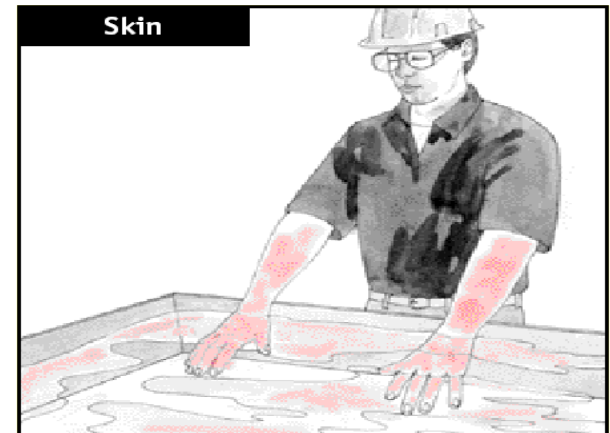
- 1. Elimination (including substitution):** remove the hazard from the workplace or substitute with a less hazardous product (chemical hazards are the most common control by substitution).
- 2. Engineering Controls:** includes designs or modifications to plants, equipment, ventilation systems, and processes that reduce the source of exposure.
- 3. Administrative Controls:** controls that alter the way the work is done, including timing of work, policies and other rules, and work practices such as standards and operating procedures (including training, housekeeping, and equipment maintenance, and personal hygiene practices).
- 4. Personal Protective Equipment:** equipment worn by individuals to reduce exposure such as contact with chemicals or exposure to noise.

These methods are also known as the "hierarchy of controls" because they should be considered in the order presented (it is always best to try to eliminate the hazard first etc).

# Traditional Routes of Entry

Hazardous materials can enter the body through many routes. These “routes of entry” are:

- **Inhalation:** Through the nose or mouth (fumes or vapors breathed in)
- **Ingestion:** Through the mouth (accidentally eaten or swallowed)
- **Absorption:** Through the skin (solvents may even soak through gloves into the skin)
- **Injection:** Direct penetration ( needles and slivers)



# Education and Training

- Education and Training can be thought of as two separate parts.
  - **Education:** refers to general or portable information such as how WHMIS works and the hazards of the products. For example, you will learn about the hazard classes.
  - **Training:** refers to the site- and job-specific information to employees that will cover your workplace's procedures for storage, handling, use, disposal, emergencies, spills, and what to do in unusual situations.
- All workers who work with a hazardous product, or who may be exposed to a hazardous product as part of their work activities must learn about the hazard information for these products, and must participate in education and training programs.

# Education and Training

- Hazard information should include the information received from the supplier, as well as any other information that the employer is aware of about the use, storage and handling of each product.
- As an example, this education and training will include all workers who:
  - May be exposed to a hazardous product due to their work activities (including normal use, maintenance activities, or emergencies).
  - Use, store, handle or dispose of a hazardous product.
  - Supervise or manage workers who may be exposed, or use, store, handle or dispose of a hazardous product.
  - Are involved in emergency response.

# Education and Training

- Refresher education and training is generally required:
  - As needed to protect the worker's health and safety.
  - If conditions of the workplace have changed.
  - If new products are introduced.
  - If the products have changed and now have different hazards.
  - When new hazard information becomes available.
  - If there is new information about safe use, handling, storage or disposal
- Workers should be able to answer these questions for every hazardous product they work with:
  - What are the hazards of the product?
  - How do I protect myself from those hazards?
  - What do I do in case of an emergency?
  - Where can I get further information?

Please complete the knowledge verification quiz located [HERE](#)

# Questions

