# WHMIS TRAINING

KUBES STEEL

Workplace Hazardous Materials
Information System

# Overview and Routes of Entry


Section 1

# WHAT IS WHMIS?

- WHMIS first came into effect in 1988, then updated in 2015 to align the Canadian WHMIS system with the Globally Harmonized System of Chemical Classification

- It was created to address the rights of workers, to know about the health and safety hazards associated with chemicals that they use or may come in contact with in the workplace.

# 3 Parts of WHMIS

- WHMIS is made up of 3 main components:
- **Labels** – found of products to warn workers that there may be hazards with a material



**Safety Data Sheets** – found in the workplace to give additional information about the hazardous material

- **Training** - workers must participate in WHMIS training which includes general knowledge plus specific information about the materials in their workplace

# WHAT THE LAW SAYS

- **Canada** - Federal WHMIS laws require suppliers of hazardous materials to provide health and safety information about chemicals
- They also make sure that all provinces have the same WHMIS rules

- **Each Province** - Provincial WHMIS laws require employers to get the proper health and safety information about hazardous materials in the workplace and to pass this information on to workers
- They also require workers to participate in WHMIS training

# RESPONSIBILITIES

- **Employers are required to:**
- Ensure that Safety Data Sheets are available in the workplace and easy to find
- Ensure that all containers of hazardous materials in the workplace are labeled
- Provide training on WHMIS to employees

- **Workers are required to:**
- Participate in WHMIS training
- Use their knowledge of WHMIS to work as safely as possible

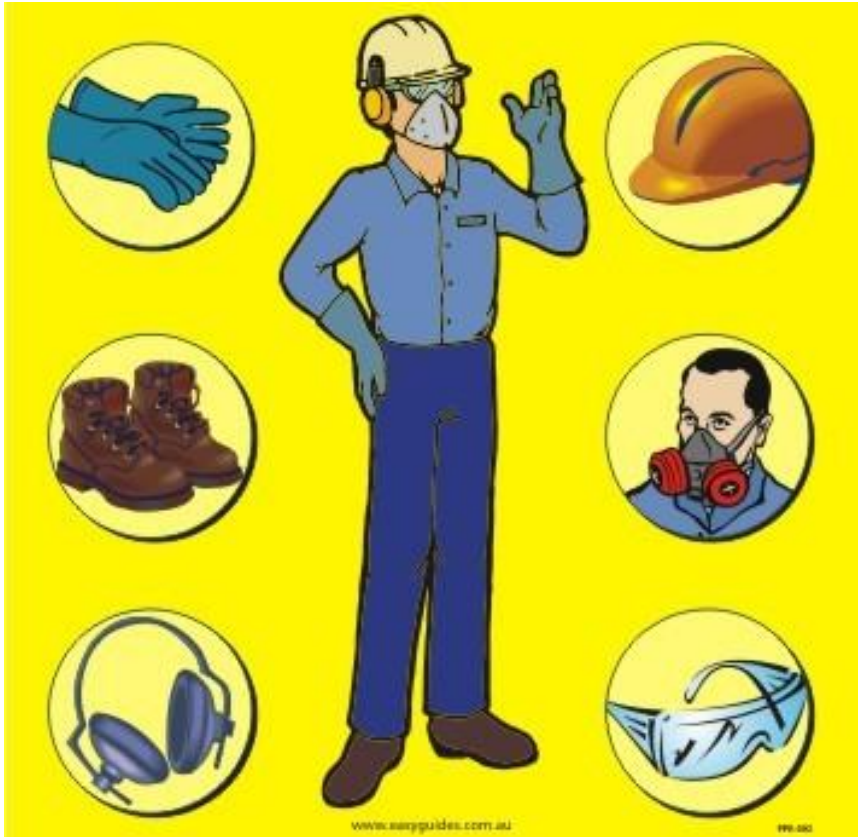
# WORKER RIGHTS

- **You have the right to refuse** - work that you believe is dangerous without getting in trouble

- **You have the right to know** - about the hazards of the materials that you work with
  including how to use them safely

- **You have the right to participate** - in health and safety and to consult with Company Health and Safety Representatives

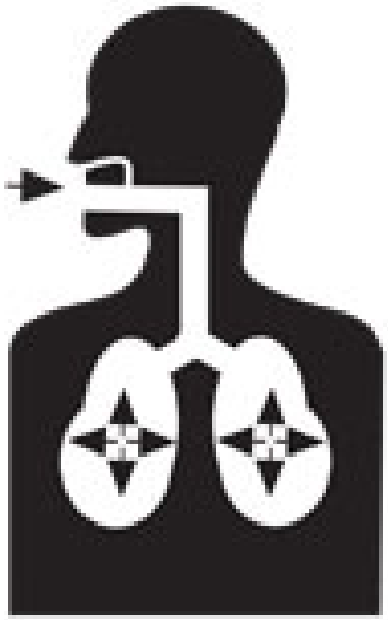
# ROUTES OF ENTRY



- Chemicals can be solids, liquids or gases
- How can chemicals enter the body?
- In order for a chemical to become hazardous to a person's health, it must first contact or enter the body
- There are four primary Routes of Entry:

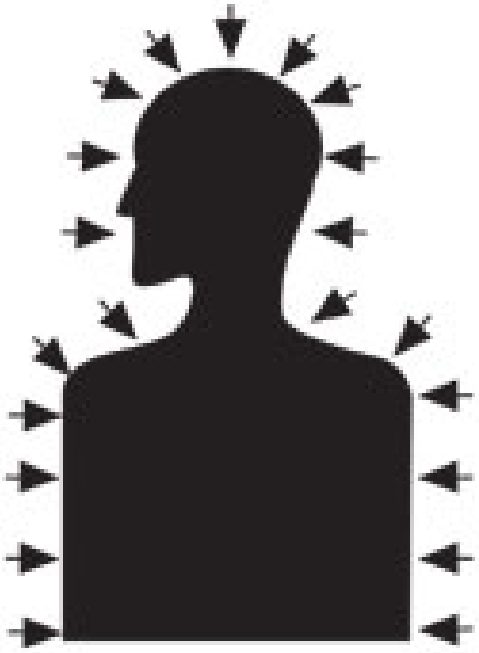
# INHALATION

- Breathing in gases and chemicals is the most common way for hazardous materials to enter the body in the workplace.
- Dust, mist, fumes and vapours can be inhaled in through your nose or mouth
- They can travel into your lungs where they can begin to cause damage and even enter into your blood stream



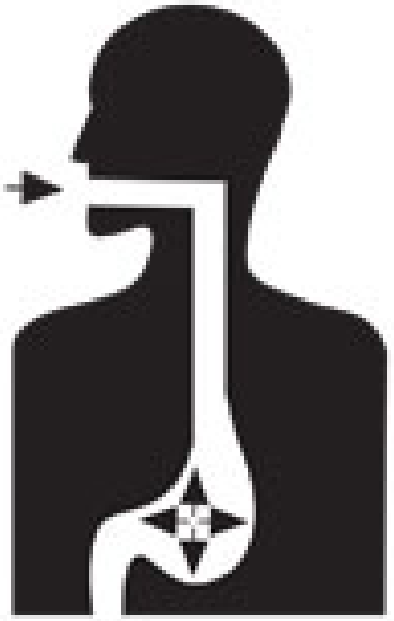
# ABSORPTION

- Some hazardous materials can enter your body by passing through your skin
- The type and severity of harm you sustain from the chemicals will depend on the type of material that you were in contact with
- Some hazardous materials will cause your skin to become very sensitive, while others may pass directly through the skin and into the blood stream and various organs



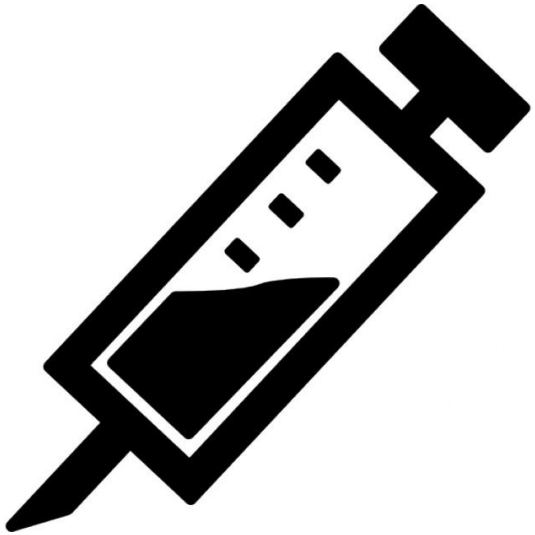
# INGESTION

- Chemicals can easily be absorbed through your digestive system
- This can occur if you have hazardous materials on your hands while eating, drinking smoking or applying makeup
- It's also possible to swallow chemicals if food is left uncovered in areas where there is a risk of exposure to the chemicals



# INJECTION

- Chemicals can enter the body and particularly the bloodstream through lacerations  or cuts in your skin
- Punctures from syringes or sharp objects like sheet metal or glass is another way of chemicals into your body



# Labels


Section 2

# LABELS

- WHMIS Labels are usually the first thing that will make you aware that you are using a controlled product

- They indicate what precautions you need to take in order to protect yourself from illness or injury while working with the product
- There are 2 kinds of labels: Supplier and Workplace

# SUPPLIER LABELS

- You will find supplier labels on products when they arrive at your workplace - materials should not be accepted unless a label is available

- They will be written in English and French on the same label or two separate labels

# 6 PARTS OF A SUPPLIER LABEL

1. Product Identifier
2. Pictograms
3. Signal Words
4. Hazard Statement
5. Precautionary Statement
6. Supplier Identifier

**1 Product AAA / Produit AAA**

**Danger** 3

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

**Precautions**

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

**Store Locked up** 5

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 as poison centre or doctor. Rinse mouth.

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**Danger** 3

**Mortel en cas d'ingestion. Provoque irritation cutanée.** 4

**Conseils**

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

**Garder sous clef** 5

Éliminer le contenu/récipient conformément aux réglements locaux en vigueur.

**En cas de contact avec la peau:** Lave abondament a l'eau.

**En cas d'irritation cutanée:** Demander un avis médical/consulter un médecin. Enlever les vétements contaminés et les laver avant réutilization.

En cas d'ingestion: Appeler immédiatem ent un centre antipoison ou un médecin. Rincer la bouche.

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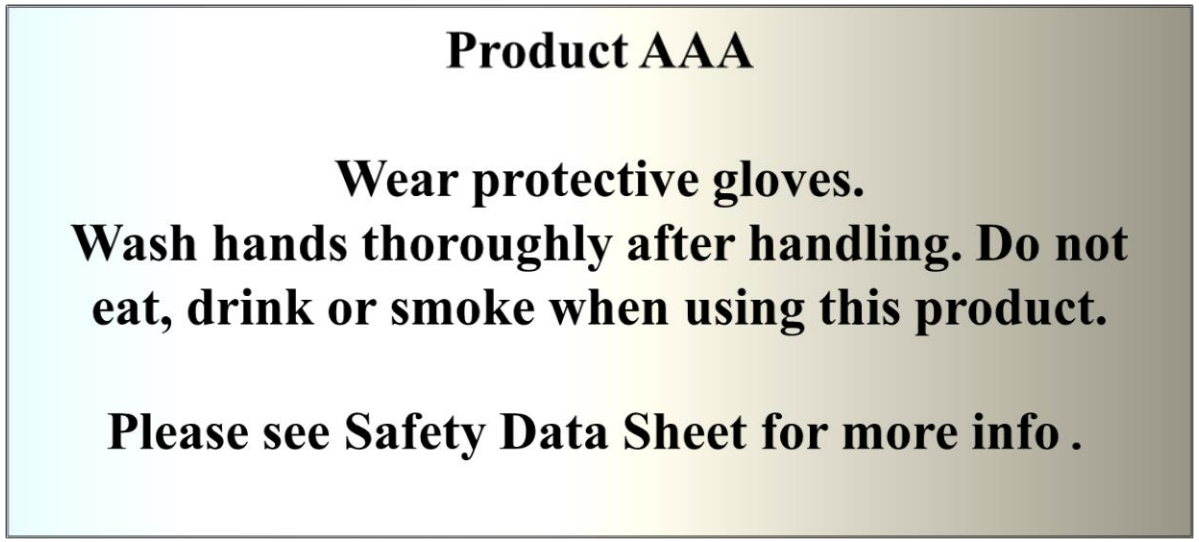
# WORKPLACE LABELS

- Sometimes we have to place labels on WHMIS products ourselves in the workplace – such as:
- When decanting a product from a container with a WHMIS Supplier label into another container
- When opening a multi-container where only the outer container has a WHMIS supplier label
- When the supplier label has been damaged

# WORKPLACE LABELS

1. Product Name (matching the SDS)
2. Safe Handling Precautions
3. A Reference to the Safety Data Sheets



# HAZARD CLASSIFICATION AND PICTORGRAMS

Section 3

# GAS CYLINDER

- The gas cylinder symbol indicates **gases under pressure** including compressed gas, liquefied gas, refrigerated liquefied gas and dissolved gas

- All compressed gases are hazardous specifically because of the high pressures inside the cylinders

- Even at a relatively low pressure, gas can flow rapidly from an open or leaking cylinder

# FLAME

- This symbol indicates that the materials are **flammable**
- Flammable substances can ignite easily and can burn vigorously when ignited
- Keep flammable materials away from ignition sources and exercise extreme caution while working with or around them

# FLAME OVER CIRCLE

- This symbol indicates that the substance is **oxidizing**
- While not flammable on their own, oxidizing materials provide the oxygen necessary to start or fuel fires
- Oxidizing materials can come in any state of matter – they can be liquids, solids or gases

# CORROSION

- This symbol indicates that the materials can cause **corrosive** damage to metals, as well as skin and eyes

- Damage caused by these chemicals is usually permanent

- Significant precautions should always be taken to ensure corrosive materials do not come in contact with unprotected parts of your body

# SKULL & CROSSBONES

- This symbol indicates that a substance is **toxic or poisonous**
- Toxic substance have the ability to harm or kill if ingested or inhaled
- Toxic substances can cause problems with the respiratory system, leading to breathing difficulties, even death

# EXCLAMATION MARK

- This symbol indicates that the chemical is an **irritant**
- These substances typically cause soreness or redness to the skin and cause it to become irritated
- Irritant substances can cause acute toxicity if inhaled or ingested

# HEALTH HAZARD

- This symbol indicates that the substance can pose **health hazards**
- They have the ability to physically damage or potentially kill
- These substances should never be inhaled or ingested under any circumstances

# EXPLODING BOMB

- This symbol indicates that the materials are explosive or highly reactive
- These products can be self reactive and have the ability to explode if handle improperly
- Could include organic peroxides

# BIOHAZARDOUS INFECTIOUS MATERIAL

- These materials or organisms are **toxic** and can cause diseases in people or animals
- This symbol was used in the original WHMIS system and the meaning of it has not changed
- Could include organisms such as bacteria, viruses, fungi and parasites that cause diseases.

# ENVIRONMENTAL DAMAGING

- This symbol indicates that it is hazardous to the aquatic environment

- These substances have the ability to kill or damage living things within an ecosystem or environment

# SYMBOLS AT A GLANCE

**Gas Cylinder**

**Flame**

**Flame Over Circle**

**Corrosion**

Skull & Crossbones

**Exclamation Mark**

**Health Hazard**

**Exploding Bomb**

**Environmental Hazard**

**Biohazardous Infectious Material**

# SAFETY DATA SHEETS


Section 4

# SAFETY DATA SHEETS (SDS)

- The label only contains a small amount of information. The SDS for the material contains additional important information, including how to use the product safely
- It contains 16 sections with prescribed information - old WHMIS Material Safety Data Sheets only contained nine

# SDS INFO - SECTIONS 1 - 4

1. **Identification** – Tells you the name of the chemical 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 and the appropriate warning information associated with those hazards
3. **Ingredients** - Identifies the ingredient(s) contained in the product, 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

# SDS INFO - SECTIONS 5 - 8

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** – Provides the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure

# SDS INFO - SECTIONS 9 - 12

9. **Physical and Chemical Properties** - Identifies physical and chemical properties associated with the substance or mixture including what it looks like and smells like
10. **Stability and Reactivity** - Describes the reactivity hazards of the chemical and tells you how stable it is. This section is broken into three parts: reactivity, chemical stability, and other
11. **Toxicological Information** - Identifies toxicological / poisonous information and health effects - or it indicates that such data are not available if it does not apply
12. **Ecological Information** - Provides information to evaluate the environmental impact of the chemical if it was released to the environment

# SDS INFO - SECTIONS 13 - 16

13. **Disposal Considerations** - Provides guidance on proper disposal practices, recycling or reclamation of the chemical or its container and safe handling practices
14. **Transport Information** - Provides guidance on classification information for shipping and transporting of hazardous chemical by road, air, rail, or sea
15. **Regulatory Information** - Identifies the safety, health, and environmental regulations that apply to the product that may not be indicated anywhere else on the SDS
16. **Other Information** - Indicates when the SDS was prepared or when the last known revision was made - It may also state where the changes have been made to the previous version