

WHMIS REVIEW



1. What is WHMIS?

The Workplace Hazardous Materials Information System (WHMIS) is a Canada-wide legislated system of providing information on workplace hazardous materials and how to safely use, store and handle them.

Many of the materials in today's workplaces can cause injury, illness or death due to fire, explosion or other serious accidents if they are not handled properly. WHMIS describes the dangers of these workplace materials and how workers can protect themselves from the hazards associated with them. WHMIS legislation also makes employers responsible for providing its workers with workplace-specific training and education.

Each workplace must have a system in place that tells workers what they need to know about the products they work with.

The three main elements of WHMIS – labels, MSDSs and training – are provided for everyone's benefit. Read the WHMIS label each time you use any controlled product. Tell your supervisor if a label is damaged or missing. Refer to the MSDS for details about any hazardous products before you use it. And, if you have any questions, ask your supervisor.

2. What is MSDS?

Material Safety Data Sheets (MSDSs) describe the hazards of the materials you use on the job. They are developed for each product by its manufacturer or supplier, and must be updated every three years, or as required by change. Employers must ensure that MSDSs are available to all staff at all times.

3. **What is PPE?** Personal Protective Equipment (PPE) refers to protective clothing, helmets, goggles or other garments of equipment designed to protect the wearer's body from injury by blunt impacts, electrical hazards, heat, chemicals, and infection, for job-related purposes.

The use of personal protective equipment is to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective to reduce these risks to acceptable levels.

4. What are the Hazard symbols and what do they represent?

The WHMIS system groups hazardous materials into six classes or categories based on the type of hazard which they represent. These materials are also called controlled products. Each category has its own hazard symbol and it is important that the worker be able to recognize these. Hazardous materials can be in the form of liquids, gases, mists, fumes or vapors. This could include such items like paint, cleaning products and solvents.

A - COMPRESSED GAS



A compressed gas is a material which is a gas at normal room temperature (20 C) and pressure but is packaged as a pressured gas, dissolved gas or gas liquified by compression or refrigeration.

The hazard from these materials, aside from their chemical nature, arises from sudden loss of integrity of the container. A compressed gas cylinder is usually quite heavy and when ruptured can become a projectile with the potential to cause significant damage.

Acetylene and oxygen are examples of compressed gases.

B - FLAMMABLE AND COMBUSTIBLE MATERIAL



Flammable or combustible materials will ignite and continue to burn if exposed to a flame or source of ignition.

Materials are classified as a flammable gas, flammable aerosol, flammable liquid, combustible liquid, flammable solid, or reactive flammable material. Methane, acetone, aniline, and lithium hydride are examples of flammable materials.

C - OXIDIZING MATERIAL



An oxidizing material may or may not burn itself, but will release oxygen or another oxidizing substance, and thereby causes or contributes to the combustion of another material.

Ozone, chlorine, and nitrogen dioxide are oxidizing materials. These chemicals will support a fire and are highly reactive.

D - POISONOUS AND INFECTIOUS MATERIAL



D1- Materials Causing Immediate and Serious Toxic Effects

These materials may be classified as toxic or very toxic based on information such as LD50 or LC50.

Examples: Styrene, hydrogen cyanide are very toxic substances.

D2 - Materials Causing Other Toxic Effects



A pure substance or mixture that may be any one of the following: a carcinogen, teratogen, reproductive toxin, respiratory tract sensitizer, irritant or chronic toxic hazard.

Examples: Asbestos causes cancer, ammonia is an irritant.

D3 - Biohazardous Infectious Material



This classification includes any organisms and the toxins produced by these organisms that have been shown to cause disease or are believed to cause disease in either humans or animals. For example, a blood sample containing the Hepatitis B virus is a biohazardous infectious material. It may cause hepatitis in persons exposed to it.

E - CORROSIVE MATERIAL



Corrosive materials can attack (*corrode*) metals or cause permanent damage to human tissues such as the skin and eyes on contact. Burning, scarring, and blindness may result from skin or eye contact.

Corrosive materials may also cause metal containers or structural materials to become weak and eventually to leak or collapse.

Ammonia, fluorine, and hydrochloric acid are examples of corrosive substances.

F - DANGEROUSLY REACTIVE MATERIAL



Dangerously reactive materials may undergo vigorous polymerization, decomposition or condensation. They may react violently under conditions of shock or an increase in pressure or temperature. They may also react vigorously with water to release a toxic gas.

Ozone, hydrazine, and benzoyl peroxide are examples of dangerously reactive materials.

5. What are WHMIS labels?

WHMIS labels act as a warning to alert workers to the hazards involved in using any given hazardous material. These bilingual labels have a distinctive WHMIS slashed border and depict applicable hazard symbols, each appearing within a circle, to help you identify dangers.

Employers must ensure that all hazardous products contain a supplier label before they enter the workplace. If, for any reason, a product arrives without a label, or is decanted from its original container, employers are responsible for ensuring that a workplace label is attached. Workplace labels may vary considerably in wording and appearance but must also contain information on the product's identity, how to safely handle the material and indicate the availability of an MSDS.

If an employee finds a controlled product with a torn or illegible label, or if it has no label, he or she must immediately report it to their supervisor.

There are two types of WHMIS labels:

Supplier Labels

All supplier labels must contain the following information:

- Distinctive border in a colour that contrasts with the container.
- Product Identifier i.e. "Javex"
- Contain certain risk phrases or warnings such as i.e. "highly flammable".
- List the precautions to be taken with the product i.e. "store in cool place".
- Contain First Aid information i.e. "flush eyes for fifteen minutes".
- A risk phrase making reference to the Material Safety Data Sheet.
- Name and address of the manufacturer.

Supplier Label (Example)

HAZARD SYMBOL or SYMBOLS: Symbols that correspond to the classes, and where applicable, divisions under which the controlled product falls; the symbols immediately alert label readers to the product hazards.

RISK PHRASES: Phrases that explain the nature of the hazard and the risks involved in misusing the product beyond the risks conveyed by the symbols.

PRECAUTIONARY MEASURES: The essential measures to be taken when using, handling or working in the presence of a controlled product.

FIRST AID MEASURES: Phrases explaining the measures to be taken in case of an acute exposure.

SLASHED BORDER: Readily identifies the label as WHMIS.

REFERENCE TO THE MSDS: A statement to the effect that an MSDS is available, reminding label readers of the more comprehensive source of information.

SUPPLIER IDENTIFIER: Name of the supplier of the controlled product.

PRODUCT IDENTIFIER: Identification of the material by chemical name, common name, generic name, trade name, brand name, code name or code number.

BILINGUAL TEXT: Provides information in Canada's two official languages—English and French.

PROPANE

DANGER! EXTREMELY FLAMMABLE AND EXPLOSIVE GAS. CONTACT WITH LIQUID CAUSES FROSTBITE.

DANGER! GAZ EXTRÊMEMENT INFLAMMABLE ET EXPLOSIF. LE CONTACT AVEC LE LIQUIDE CAUSE DES GELURES.

Precautions: Keep away from heat, sparks and flame. Keep container valve closed when not in use. Containers should not be dropped. Keep away from oxidizing agents. Avoid skin or eye contact. Avoid breathing vapor. Wear protective equipment during handling. Store in upright position in a well-ventilated area.

Précautions: Tenir loin de la chaleur, de la flamme nue ou des étincelles. Garder la soupape fermée quand le contenant est hors d'usage. Ne pas laisser tomber le contenant. Tenir à l'écart des agents oxydants. Éviter tout contact avec la peau ou les yeux. Éviter de respirer les vapeurs. Durant la manipulation, porter un équipement de protection. Entreposer le contenant debout, dans un endroit bien aéré.

First Aid: If inhaled, remove victim to fresh air. If breathing stopped, begin artificial respiration. For eye contact of liquid, flush with lukewarm water for at least 15 minutes. For skin contact of liquid, flush with water while removing contaminated clothing. If frostbitten, warm the affected area such as wrapping the affected part in blankets or putting frostbitten hand or fingers under armpit. In all cases, obtain immediate medical care.

Première aide: En cas d'inhalation, donner de l'air frais à la personne incommodée. En cas d'arrêt respiratoire, pratiquer la respiration artificielle. En cas de contact avec les yeux, laver à l'eau tiède courante pendant au moins 15 minutes. En cas de contact avec le visage, retirer les vêtements souillés et laver la peau à l'eau courante. En cas de gelure, réchauffer la région touchée en l'enveloppant dans une couverture par exemple ou en plaçant les mains, les doigts gelés sous l'aisselle. Dans tous les cas, obtenir des soins médicaux.

ATTENTION! THIS CONTAINER IS HAZARDOUS WHEN EMPTIED. ALL LABELLED HAZARD PRECAUTIONS MUST BE OBSERVED.

ATTENTION! CE CONTENANT EST DANGEREUX LORSQU'IL EST VIDE. TOUTES LES ÉTIQUETTES DE DANGER DOIVENT ÊTRE OBSERVÉES.

SEE MATERIAL SAFETY DATA SHEET FOR THIS PRODUCT

VOIR FICHE SIGNALÉTIQUE POUR CE PRODUIT

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Workplace Labels

Workplace labels are used in the workplace to:

Identify controlled products that are produced and used in the workplace.

For products transferred into other containers.

To replace a supplier label if it is damaged or missing.

No product is to be used without having an identification label attached to it.

All Workplace labels must contain the following information:

- The product identification
- Precautionary measures
- Reference to MSDS

Workplace Label (Example)

