



Workplace Hazardous Materials Information System

Goal

To ensure the workplace is has the necessary information to implement a proper WHMIS training program. Recognize the key elements of WHMIS and apply them to the specific hazardous materials in your workplace.

Occupational Health and Safety Act

Instruction and training

42. (1) In addition to providing information and instruction to a worker as required by clause 25 (2) (a), an employer shall ensure that a worker exposed or likely to be exposed to a hazardous material or to a hazardous physical agent receives, and that the worker participates in, such instruction and training as may be prescribed.

Consultation

(2) The instruction and training to be given under subsection (1) shall be developed and implemented by the employer in consultation with the committee or health and safety representative, if any, for the workplace.

Review

(3) An employer shall review, in consultation with the committee or health and safety representative, if any, for the workplace, the training and instruction provided to a worker and the worker's familiarity therewith at least annually.

Idem

- (4) The review described in subsection (3) shall be held more frequently than annually, if,
- (a) The employer, on the advice of the committee or health and safety representative, if any, for the workplace, determines that such reviews are necessary; or
 - (b) There is a change in circumstances that may affect the health or safety of a worker. R.S.O. 1990, c. O.1, s. 42.

WHMIS Regulation

Section 6, providing a worker with safe use, storage and handling information

- (1) An employer shall ensure that a worker who works with or in proximity to a controlled product received from a supplier is informed about all hazard information the employer receives from the supplier concerning the controlled product and all further hazard information of which the employer is or ought to be aware concerning its use, storage and handling.
- (2) An employer who produces a controlled product in a workplace shall ensure that every worker who works with or in proximity to the controlled product is informed about all hazard information of which the employer is or ought to be aware concerning the controlled product and its use, storage and handling.

Section 7, providing a worker with instruction in MSDS, labels and safe use, storage and handling procedures

- (1) An employer shall ensure that every worker, who works with or in proximity to a controlled product, is instructed in,
- (a) The contents required on a supplier label and the purpose and significance of the information contained on the labels;
 - (b) The contents required on a material safety data sheet and

the purpose and significance of the information contained on a material safety data sheet;

(c) Procedures for the safe use, storage, handling and disposal of a controlled product;

(d) Procedures for the safe use, storage, handling and disposal of a controlled product when it is contained or transferred in,

(i) A pipe,

(ii) A piping system including valves,

(iii) A process vessel,

(iv) A reaction vessel, or

(v) A tank car, a tank truck, an ore car, a conveyor belt or a similar conveyance;

(e) Procedures to be followed when fugitive emissions are present; and

(f) Procedures to be followed in case of an emergency involving a controlled product.

(2) An employer shall ensure that the program of worker education required by subsection (1) is developed and implemented for the employer's workplace and is related to any other training, instruction and prevention programs at the workplace.

(3) An employer shall ensure, so far as is reasonably practicable, that the program of worker instruction required by subsection (1) results in the workers being able to use the information to protect their health and safety.

Providing Information - Worker Education

Information to be provided to workers:

- If the controlled product is purchased from a supplier, the employer should inform the worker about all hazard information received from the supplier. In general, this means the information provided on supplier labels and data sheets, but it can also include other information such as letters from the supplier in response to inquiries from the

employer.

- The employer should also pass on to workers any information the employer is or, ought to be aware of.
- If the controlled product is produced in the workplace, the employer should inform the worker about all hazard information of which the employer is aware, or ought to be aware.
- For the purposes of interpreting what information the employer "ought to be aware of", the following are considered to be sources of occupational health and safety information that the employer should know about:
 - Publications and computerized information available from the Canadian Centre for Occupational Health and Safety
 - Publications available from industry or trade associations of which the employer is a member and from labour organizations representing workers at the workplace; and
 - Publications from the Ontario Ministry of Labour

It is not expected that the employer would have to consult all of the above sources, nor is the employer limited to the above.

Providing Instruction - Worker Education

The worker education program must cover the following six areas:

1. Labels - the information required, the purpose of the information and the significance of the information;
2. Modes of identification - when used at the workplace instead of labels;
3. MSDS's - the information required, the purpose of the information and the significance of the information;
4. Procedures for the safe use, storage, handling and disposal of a controlled product, including a controlled product in a piping system or vessel;
5. Procedures to be followed where fugitive emissions are present; and
6. Procedures to be followed in case of an emergency involving a controlled product.

Under the WHMIS Regulation, so called "generic instruction" is permitted.

Generic instruction refers to the instruction of workers without reference to specific controlled products or workplaces.

Generic instruction is acceptable in the following cases:

- Instruction in the content required on supplier labels, workplace labels and material safety data sheets;
- Instruction on how WHMIS works;
- Instruction in the hazards of a group of products which have similar properties and for which it is acceptable to use a generic material safety data sheet, provided there is instruction in hazards peculiar to any one product in the group;
- Instruction in work procedures for a group of products if the procedures are basically the same for all products in the group;
- Instruction in work procedures that apply to a variety of worksites if the work procedures are basically the same at each worksite;

We will now look at the WHMIS classes and their symbols.

Hazard Symbols and Classes



Class A - Compressed Gas

- Explosion hazard, because the gas is being held under pressure
- May cause its container to explode if heated in fire
- May cause its container to explode if dropped, handle with care, do not drop cylinder
- Keep cylinder away from potential sources of ignition
- Store the container in the area designated by the workplace supervisor



Class B - Combustible and Flammable Material

- It will burn and is therefore a potential fire hazard
- May burn at relatively low temperatures; flammable materials than combustible materials
- May burst into flame spontaneously in air or release a flammable gas on contact with water
- Handle with care, do not drop cylinder
- Keep cylinder away from potential sources of ignition
- Store the container in the area designated by the workplace supervisor



Class C - Oxidizing Material

- Fire and/or explosion risk in the presence of flammable or combustible material
- May cause fire when it comes into contact with combustible materials such as wood
- May react violently or cause an explosion when it comes into contact with combustible materials such as fuels
- May burn skin and eyes if contact is made
- Keep it away from combustible materials and store in the area designated by the workplace supervisor
- Keep the material away from ignition sources
- Never smoke when working near the material
- Wear the proper protective equipment including eye, face and hand protection and protective clothing



Class D - Division 1 - Poisonous and Infectious Material: immediate and serious toxic effects

- A potentially fatal poisonous substance
- May be fatal or cause permanent damage if it is inhaled or swallowed or if it enters the body through contact with skin
- May burn eyes or skin if contact is made
- Handle the material with extreme caution
- Wear proper protective equipment to avoid contact with eyes and skin, including eye, face and hand protection and protective clothing
- Avoid inhaling by working in well ventilated areas and/or wearing respiratory equipment
- Wash and shower thoroughly after each use
- Store the material only in designated areas



Class D - Division 2 - Poisonous and Infectious Material: other toxic effects

- A poisonous substance that is not immediately dangerous to health
- May cause death or permanent damage if repeated exposure takes place over time
- May cause cancer
- May cause birth defects or sterility
- Wear proper protective equipment to avoid contact with eyes and skin, including eye, face and hand protection and protective clothing
- Avoid inhaling by working in well ventilated areas and/or wearing respiratory equipment as designated by workplace supervisor
- Store the material only in designated areas



Class D - Division 3 - Poisonous and Infectious Material: biohazardous infectious material

- May cause a serious disease which can result in illness or death
- Take every precautionary measure to avoid contamination
- Handle the material only when full protection is provided by the proper, designated equipment
- Handle the material in designated areas and ensure engineering controls are in place to prevent exposure



Class E - Corrosive Material

- Causes severe eye and skin irritation when contact is made
- Causes severe tissue damage if prolonged contact is made
- May be harmful if inhaled
- Keep containers tightly closed
- Wear proper protective equipment to avoid contact with eyes and skin, including eye, face and hand protection and protective clothing
- Avoid inhaling by using in well ventilated areas only and/or wearing proper respiratory equipment as designated by workplace supervisor



Class F - Dangerously Reactive Material

- Material very unstable
- May react with water to release a toxic or flammable gas
- May explode as a result of shock, friction or temperature increase
- May explode if heated while in a closed container
- Can undergo vigorous polymerization
- Keep material away from heat
- Open containers with extreme care, do not drop or shake
- Store in a cool, flameproof area, as designated by workplace supervisor

Supplier Label must contain the following:



Workplace Label



If you create a secondary container of a WHMIS controlled substance in your workplace, you must also create a WHMIS label for this container. Put the information shown above on that label. If in doubt as to what information goes on the label, consult the MSDS.

Job Specific WHMIS Training

Obtain the current MSDS for up to four of the chemicals you use in your workplace every day. All of the information you will need for this exercise is contained in those MSDS's.

Job Specific Hazardous Chemicals:

- 1.
- 2.
- 3.
- 4.

Personal Protective Equipment Required for these Chemicals:

- 1.
- 2.
- 3.
- 4.

Hazard Types for each Chemical:

- 1.
- 2.
- 3.
- 4.

Disposal method for each Chemical:

- 1.
- 2.
- 3.
- 4.

Hazard Descriptions & Consumer Product Symbols Example

Hazard Description

POISONOUS/INFECTIOUS/BIOHAZARDOUS:

Causes immediate or long term poisoning or disease

FLAMMABLE & COMBUSTIBLE:

Catches Fire very suddenly

OXIDIZING:

Feeds a fire and makes it larger

CORROSIVE:

Burns skin and eyes - harmful if breathed

DANGEROUSLY REACTIVE:

Explodes or gives off dangerous vapours

EXPLOSIVE:

Can explode if dropped, crushed or heated

COMPRESSED GAS:

Takes off like a rocket if dropped, heated or crushed



PROTECTIVE EQUIPMENT

All employees are encouraged to use all required protective equipment when working a Hazardous environment. Ensure all protective equipment is being worn properly at all times, when necessary.



Supplier Material Safety Data Sheet

A material safety data sheet (MSDS) is a technical document or bulletin that summarizes the health and safety information available about a controlled product. It supplements the warning information on the label. Note: A supplier MSDS is not intended to provide all the information needed for the safe use of a product. The way a controlled product is used and, consequently, the hazard to the worker, can vary from workplace to workplace. The supplier is not expected to anticipate every required protective measure for every workplace to which the product is sold. The employer, through the worker education program, is expected to tailor the supplier's information to the conditions in the employer's workplace.

Content of Supplier MSDS

A supplier MSDS must have at least 9 sections with the following or similar headings.

1. Hazardous Ingredients: provides information on the name, concentration and toxicity of each hazardous ingredient of a controlled

product.

2. Preparation Information: which includes the name and phone number of the person or group who prepared the MSDS and the date of preparation.
3. Product Information: identifies the product, the supplier/manufacturer and describes the use of the product.
4. Physical Data: information describing the physical properties of the product such as whether the product is a solid, liquid or gas.
5. Fire or Explosion Hazard: information on how likely the product is to ignite or explode under various conditions.
6. Reactivity Data: provides information on the chemical stability of the product and how likely it is to react with other chemicals.
7. Toxicological Properties: provides information on how the product enters the body and what its short and long term health effects are.
8. Preventive Measures: provides information on the measures to protect worker health and safety during the transportation, storage, use and disposal of the product, as well as emergency procedures.
9. First Aid Measures: provides information for the safe evacuation and immediate treatment of anyone overexposed to a controlled product.

WHMIS Assessment

Goal

To ensure workplaces have information on all hazardous materials in the workplace.

Procedure

- Contact all of your suppliers and have them provide you with Material Safety Data Sheets for all the products you have ordered from them in the current year.
- For Consumer Products, Pesticides Control Act Products, Manufactured Articles and any material you may have purchased

from other than a Commercial supplier, contact the manufacturer of the product, which is usually on the label.

- Ensure that all containers are labelled properly.
- Check the date of the MSDS's. They should not be dated more than 3 years of the current date.
- Prepare an assessment using the following headings:
 - a) Product Name
 - b) WHMIS Class
 - c) Expiry Date / Location
 - d) Used/Process
 - e) Physical State
 - f) Primary Route of Entry
 - g) Degree of Risk
 - h) Control Measures

WHMIS training can be the most important safety training you will ever learn! It could save your life, the life of a co-worker or even a family member. Learn to read the product labels of every chemical you work with at your worksite and in your home. Please go through the WHMIS power point training presentation before signing your training records indicating that you have successfully completed your training. Your instructor will also sign your training records.