



# Workplace Hazardous Materials Information System



Workplace  
Hazardous Materials  
Information System

## Office WHMIS




---

---

---


---

---

---

---

---



# Agenda

- Legislation, including Occupational Health & Safety Act (OHSA) and Regulations
- McMaster University's Risk Management Manual (RMM) # 501: Hazardous Materials Management Systems including WHMIS Program
- Workplace Hazardous Information System (WHMIS)
- Emergency Procedures
- Reporting an Injury/Incident/ Hazardous Situation
- Resources

---

---

---


---

---

---

---

---



# Occupational Health and Safety Act (OHSA)

<ul style="list-style-type: none"> <li>▪ Industrial Regulations</li> <li>▪ Construction Regulations</li> <li>▪ Health Care Regulations</li> <li>▪ Mining Regulations</li> <li>▪ Control of Exposure to Biological and Chemical Agents</li> <li>▪ WHMIS</li> <li>▪ Diving Operations</li> <li>▪ First Aid</li> </ul>	<p><b>Designated Substances:</b></p> <ul style="list-style-type: none"> <li>• Asbestos</li> <li>• Lead</li> <li>• Mercury</li> <li>• Silica</li> <li>• Isocyanates</li> <li>• Arsenic</li> <li>• Benzene</li> <li>• Acrylonitrile</li> <li>• Vinyl Chloride</li> <li>• Ethylene Oxide</li> <li>• Coke Oven Emissions</li> </ul>
---	---

---

---

---


---

---

---

---

---



## Occupational Health & Safety Act (OHSA)

- Governs workplace health and safety through interaction of government, employer, supervisors and workers
- Joint Health & Safety Committee (JHSC) involvement
- Applies to all paid workers
- Outlines Industrial, Construction, Mining, & Health Care Regulations

---

---

---


---

---

---

---

---



## Internal Responsibility System (IRS)

Ministry of Labour's philosophy

The IRS requires management and workers to co-operate to identify occupational health and safety hazards in their workplace and to recommend solutions.

The JHSC is the body in the workplace through which this participation by management and workers is accomplished.

*Everyone* is accountable for the health and safety system in the workplace.

---

---

---


---

---

---

---

---



## The OHSA Gives Us Three Rights:

- Right to know (about hazards in the workplace)
- Right to participate (in training and JHSC)
- Right to refuse unsafe work

---

---

---


---

---

---

---

---



**Duties Of A Worker (OHSA, Section 28)**

(1) A worker shall,

- (a) work in compliance with the provisions of this Act and regulations
- (b) use or wear the equipment, protective devices or clothing that the worker's employer requires to be used or worn
- (c) report to his/her employer or supervisor the absence of or defect in any equipment or protective device of which the worker is aware and which may endanger himself, herself or another worker; and
- (d) report to his/her employer or supervisor any contravention of this ACT or the regulations or the existence of any hazard of which he or she knows

---

---

---


---

---

---

---

---



**Duties Of A Worker, cont'd**

2) No worker shall,

- (a) remove or make ineffective any protective device required by the regulations or by his or her employer, without providing an adequate temporary protective device and when the need for removing or making ineffective the protective device has ceased, the protective device shall be replaced immediately
- (b) use or operate any equipment, machine, device or thing or work in a manner that may endanger himself, herself or any other worker; or
- (c) engage in any prank, contest, feat of strength, unnecessary running or rough and boisterous conduct

---

---

---


---

---

---

---

---



**Duties Of A Supervisor: (OHSA, Section 27)**

(1) A supervisor shall ensure that a worker,

- (a) works in the manner and with the protective devices, measures and procedures required by this Act and the regulations; and
- (b) uses or wears the equipment, protective devices or clothing that the worker's employer requires to be used or worn

(2) Without limiting the duty imposed by subsection (1), a supervisor shall,

- (a) advise a worker of the existence of any potential or actual danger to the health or safety of the worker of which the supervisor is aware;

---

---

---

---

---

---

---

---



### Duties Of A Supervisor, cont'd

(2) (Section 27)

- (b) where so prescribed, provide a worker with written instructions as to the measures and procedures to be taken for protection of the worker; and
- (c) take every precaution reasonable in the circumstances for the protection of a worker

---

---

---

---

---

---

---

---



### Competent Person Defined

A person qualified because of training, education and experience to organize the work and its performance

A person familiar with the OHSA and the Regulations that apply to the work

A person who has knowledge of the actual and potential dangers to health and safety in the workplace.

---

---

---

---

---

---

---

---



### Due Diligence - Court Of Law

- Employers and Supervisors must demonstrate "due diligence". This is defined under the OHSA as,

'taking every precaution reasonable in the circumstances for the protection of the worker's health and safety'

---

---

---

---

---

---

---

---



## Bill C45

- Under the Criminal Code of Canada
- Any representative of the organization
- Must show willful intent and lack of compliance with the OHSA
- Only defense is due diligence & the demonstration of a safety management system

---

---

---

---

---

---

---

---



## Statutory Limits

- Maximum fine for a corporation = \$500,000
- Maximum fine for an individual = \$25,000
- Currently a 25% surcharge on fines over \$1,000
- Individuals also eligible for imprisonment up to 12 months

---

---

---

---

---

---

---

---



## Toronto School Board

- Largest school board to be fined under the OHSA--\$ 150,000 for death of a Caretaker
- Caretaker had mixed household bleach with liquid toilet cleaner (ammonia)
- Charges on failing to ensure labeling, MSDS, safe use and handling of products and procedures in case of an emergency

---

---

---

---

---

---

---

---



## Asbestos: A Designated Substance Under OSHA

- See Risk Management Manual # 401 for details on The University's Asbestos Management.
- This program is in compliance with applicable regulations enforced by the Ministry of Labour.
- The University maintains an inventory of all asbestos on campus and can provide this upon request.
- Interested in learning more? Sign up for class or on line on the EOHSS website.

---

---

---

---

---

---

---

---



## Risk Management Program # 501: Hazardous Materials Management Systems including WHMIS Program

- Defines the systems and procedures for the responsible management of hazardous materials and the integration of the Workplace Hazardous Materials Information System (WHMIS)
- Outlines Supervisor's responsibilities including training and documentation of training
- Outlines Individual's responsibilities including the requirement to be WHMIS trained and to follow procedures directed at minimizing the production of hazardous waste
- Visit <http://www.workingatmcmaster.ca/ehss> and follow the link to Risk Management Manual for more information

---

---

---

---

---

---

---

---



## Workplace Hazardous Materials Information System (WHMIS) Ontario Regulation 860

### Purpose

- To provide information on hazardous materials used in the workplace
- To facilitate the process of hazard identification in the workplace
- To ensure consistency of hazard information in all Canadian workplaces

---

---

---


---

---

---

---

---



## Responsibilities Regarding Hazardous Materials

**Employer**

- Identifies Workplace Hazards (in consultation with JHSC)
- Completes an Assessment on any Designated Substances in the workplace
- Provides Workplace Labels
- Provides Material Safety Data Sheets (MSDS)
- Provides Education to Workers

---

---

---


---

---

---

---

---



## Responsibilities Regarding Hazardous Materials

**Worker**

- Participate in training
- Apply knowledge
- Recognize and report hazards to the supervisor

---

---

---


---

---

---

---

---



## Workplace Inspections

- Both Joint Health and Safety Committee (JHSC) and Supervisors are required to conduct inspections of the workplace
- Inspections must be documented; posted on boards
- See RMM# 302: Safety Audits and Inspections Program to learn more and download inspection forms

---

---

---

---

---

---

---

---



## WHMIS

Ensuring workers receive the **education**,  
and **site-specific training**,  
in the **safe storage**,  
**handling**,  
and **use**  
of controlled products in the workplace

---

---

---

---

---

---

---

---



## 3 Main Components of WHMIS

- **Labeling** Requirements
  - *Supplier WHMIS label*
  - *Workplace Label*
- **MSDS**
  - *Material Safety Data Sheets*
- **Training**
  - *Employer*
  - *Worker*

---

---

---

---

---

---

---

---



## How Substances/Chemicals Enter Our Body

- Inhalation (breathing) is the most common route of entry
- Absorption (through skin, eyes, mouth, open wounds)
- Ingestion (by eating, drinking, chewing gum)
- Injection (through needles, sharp punctures)

Hazardous substances/chemicals can have immediate health effects (Acute), health effects that occur over time (Chronic) or both.

---

---

---

---

---


---

---


---

**WHMIS Hazardous Symbols**

**Class A: Compressed Gas**  
 Any material which is a gas at normal temperature and pressure, but is packaged as pressurized, dissolved or liquefied gas by compression or refrigeration. E.g. Fire Extinguisher



**Class B: Flammable & Combustible**  
 Will ignite and continue to burn in air if exposed to a source of ignition  
 Can be a gas, liquid, aerosol, solid  
 E.g. Varsol




---

---

---

---

---

---


---

---

**WHMIS Hazardous Symbols**

**Class C: Oxidizing Material**

- May or may not burn but will release oxygen contributing to the combustion of other material
- E.g. chlorine found in household bleach




---

---

---

---


---

---

---


---

**WHMIS Hazardous Symbols**




**Class D: Poisonous & Infectious Material**

**Materials Causing Immediate & Serious Toxic Effects**  
 E.g. Oven Cleaner



**Materials Causing Other Toxic Effects**  
 (carcinogens, irritants, sensitizers)  
 E.g. asbestos, ammonia



**Biohazardous Infectious Material:**

- Either a living organism or the chemical toxin it produces that can cause illness in humans
- E.g. Hepatitis B, Cholera

---

---

---


---

---


---

---

---




## WHMIS Hazardous Symbols



**Class E: Corrosive Material**

- Can attack metals and cause skin damage
- May weaken containers
- E.g. acids, ammonia



**Class F: Dangerously Reactive Material**

- May react violently under conditions of shock or increases in temperature or pressure
- May react with water to create a toxic gas
- E.g. ozone, benzoyl peroxide

---

---

---

---

---

---

---

---

---

---



## Supplier Labels

Must provide 8 pieces of information in English & French

- a. Product Identifier (common/chemical name)
- b. Hazard Symbol(s)
- c. Risk Phrase(s)
- d. First Aid Measures
- e. Supplier Identifier (name, address, etc.)
- f. Reference to Material Safety Data Sheet
- g. Precautionary Measures
- h. Border – must be distinctive & different from background of container

---

---

---

---

---

---

---

---

---

---



## Supplier Labels (Examples)

PRODUCT IDENTIFIER  
IDENTIFICATEUR du PRODUIT

RISK PHRASES      MENTIONS de RISQUES

PRECAUTIONARY MEASURES      PRECAUTIONS & PRENDRE

FIRST AID MEASURES      PREMIERS SOINS

SEE MATERIAL SAFETY DATA SHEET  
VOIR FICHE SIGNALÉTIQUE

SUPPLIER IDENTIFIER  
IDENTIFICATEUR du FOURNISSEUR

**METHANOL**      **METHANOL**

DANGER      DANGER

POISON      POISONNABLE

FLAMMABLE      INFLAMMABLE

MAY CAUSE BURNING OF SKIN      PEUT PROVOQUER LA GÊTE, LE BRÛLURE

SEE MATERIAL SAFETY DATA SHEET FOR PRECAUTIONS

ABIC Company  
Aurora, Ontario    Telephone: 123-4567

---

---

---

---

---

---

---

---

---

---



## Workplace Labels

[Are FREE and available through ABB B 166 (Stores) Or EOHSS]

Date Received/Produced \_\_\_\_\_  
 Material \_\_\_\_\_

Use Safety Glasses \_\_\_ Use Gloves \_\_ Use only in fumehood \_\_\_\_\_  
 Additional Precautions \_\_\_\_\_

First Aid \_\_\_\_\_

**See MSDS before use**

Researcher/Producer \_\_\_\_\_

---

---

---

---

---


---

---

---

---

---



## MATERIAL SAFETY DATA SHEET (MSDS)

Provides nine or more categories of information on the controlled hazardous chemicals under WHMIS (See Handout)

- Product Identification and Use
- Hazardous Ingredients
- Physical Data
- Fire and Explosion Data
- Reactivity Data
- Toxic Properties
- Preventative Measures
- First Aid Measures
- Preparation Data of MSDS

---

---

---

---

---

---

---

---

---

---



## MSDS Availability

- Legally the supplier must provide label and provide an MSDS
- Binders in your work area (must be updated every three years) or accessible by computer
- Find out how your work area complies
- MSDS can be obtained through:
  - [www.workingatmcmaster.ca/ehss](http://www.workingatmcmaster.ca/ehss)
  - <http://ccinfoweb.ccohs.ca>
  - <http://hazard.com>

---

---

---

---

---


---

---

---

---

---



## Emergency Procedures

- Know your Emergency Number. On Campus, dial 88.
- Know your Emergency Lockdown Procedures. For information, visit [www.mcmaster.ca/security](http://www.mcmaster.ca/security)
- Everyone is encouraged to know how to use a fire extinguisher.
- Know the location of your
  - \* nearest fire extinguisher,
  - \* fire alarm and
  - \* nearest fire escape.

**All areas should have the pink sign of security numbers posted!**

---

---

---


---

---


---

---

---



## Emergency Procedures Cont'd




---

---

---


---

---

---

---

---



## Emergency Contacts, Cont'd

- MUMC: Ext. 5555 or 521-2100
- Henderson/General/JCC: Ext. 5555 or 521-2100
- St. Joseph's, Charleton: Ext. 7777 or 522-1155
- St. Peter's Hospital: Ext. 7777 or 777-3837
- Other areas, including Downtown Centre: Dial 911

Visit:  
<http://fhs.mcmaster.ca/safetyoffice/emergencies.html>

---

---

---


---

---

---

---

---



## Incident/Accident Reporting

- All incidents/accidents *and* hazardous situations must be reported as soon as possible to your supervisor.
- Complete the Injury/Incident Form and fax to EOHSS at (905) 540-9085 or, where applicable to the FHSc Safety Office at (905) 525-8539
- Forms are available in all departmental offices, on line and by calling EOHSS at ext. 24352
- Critical Injuries must be reported right away to EOHSS at ext. 24352, or where applicable to FHSc Safety Office at ext. 24752

---

---

---


---

---

---

---

---



## Critical Injury

“*Critically injured*” means an injury of a serious nature that,

- (a) Places life in jeopardy;
- (b) Produces unconsciousness;
- (c) Results in substantial loss of blood;
- (d) Involves a fracture of a leg or arm but not a finger or a toe;
- (e) Involves the amputation of leg, arm, hand or foot but not a finger or toe;
- (f) Consists of burns to a major portion of the body; or
- (g) Causes the loss of sight in an eye

---

---

---


---

---


---

---

---



## Report and Follow Up



Complete Injury/Incident Report available on line at ; [www.workingatmcma-ster.ca/eohss](http://www.workingatmcma-ster.ca/eohss) or pre-printed copy

---

---

---

---

---

---

---

---



## Additional Training

Both EOHSS and the FHSc Safety Office provide additional training in the classroom and on-line.

Not sure what you need to know? Review the Training Matrices and the Job Hazard Analysis (JHA) with your Supervisor to identify your specific training requirements.

See RMM# 324: JHA Program available on <http://www.workingatmcmaster.ca/eohss> and follow the link to Risk Management Manual for more information.

---

---

---

---

---

---

---

---



## Need Additional Information?

Visit EOHSS at Campus Services Building  
(CSB) Room 202 or ext. 24352  
[www.workingatmcmaster.ca/eohss](http://www.workingatmcmaster.ca/eohss)

Visit FHSc. Safety Office at ext. 24956  
<http://fhs.mcmaster.ca/safetyoffice>

---

---

---

---

---

---

---

---