Workplace Hazardous Materials Information System (WHMIS)

Occupational Health, Safety and Wellness
July 2013
Objectives

- At the end of this training session you will:
  - Understand the importance of WHMIS
  - Be able to identify a supplier label and understand how to develop a workplace label
  - Be able to locate MSDSs and understand their use
  - Be prepared in the event of an emergency
Purpose of WHMIS

• WHMIS stands for Workplace Hazardous Materials Information System

• Its purpose is to provide people with enough information to make reasonable and rational decisions regarding their work with hazardous materials
Why do we need WHMIS?

1. Your **SAFETY**!
   - As a worker, you have a right to know about how to work safely with hazardous materials
   - The consequences of exposures to chemicals can be deadly!

   - E.g. When an ammonia based product is mixed with a chlorine based product (like bleach), chlorine gas, a toxic gas, is created. At lower concentrations this gas can cause respiratory irritation but at higher concentrations it can be fatal.
Why do we need WHMIS?

2. Legislation

– WHMIS is legislated at both the federal and provincial levels


– Discusses requirements regarding education, labeling and material safety data sheets (MSDSs)
Why do we need WHMIS?

3. Hospital Policy

– IV-c-10 Workplace Hazardous Materials Information System

– Can be found in the corporate policy list under Occupational Health and Safety
Responsibilities

• Suppliers
  – To provide information about their products that are determined to be hazardous such as through labeling and MSDSs

• Employers
  – To ensure controlled products are labeled or identified
  – To obtain MSDSs
  – To educate workers
Responsibilities

• Managers/Supervisors
  – Maintain an up-to-date inventory of chemicals being used in department
  – Ensure inventory is shared with Occupational Health, Safety and Wellness Department
  – Ensure if new or substitute products are brought into the facility that the MSDSs are added to the MSDS Database System
  – Ensure that all new staff are oriented to the hazards and control measures for chemicals they are to use
  – Ensure personal protective equipment is provided where necessary
  – Ensure that if hard copies of MSDSs are available, they are updated every 3 years
Responsibilities

• Employees
  – Read all new and revised MSDSs brought into department
  – Use proper safety equipment and follow established job safety procedures
  – Review the online WHMIS training annually or attend in-classroom sessions
  – Ensure that all decanted products are affixed with a workplace label
  – Report any concerns regarding chemical hazards to manager/supervisor
Controlled Products

• Is the name given to products, materials and substances that are regulated by WHMIS legislation

• They fall into one or more of six WHMIS classes
Class A – Compressed Gases

Definition:
• Contains gases and mixtures of gases stored under pressure within cylinders

Storage & Handling Precautions:
• Ruptured cylinders or broken valves can cause the release of the high pressure gas and cause the cylinders to become jet propelled rockets. Keep cylinders away from potential ignition sources.
• Cylinders should be secured properly during transportation, storage and use
• Not to be rolled, slid or dropped

Examples:
• Oxygen
• Carbon Dioxide
• Nitrogen
Class B – Combustible & Flammable Materials

Flammable and Combustible Material

Definition:
Substances that can burn

Examples:
• Isopropyl alcohol
• Ethyl alcohol
• Acetone

Storage precautions:
Must not be stored with oxidizing materials
To be stored within flammable storage cabinets
Class C – Oxidizing Materials

Definition
- Liquids or solids that readily give off oxygen or other oxidizing substances (e.g. chlorine, bromine)
- React chemically to oxidize combustible (burnable) materials increasing the chance of a fire or explosion

Storage & Handling Precautions:
- Store away from combustible and flammable materials and incompatible oxidizers
- Use in well ventilated areas

Examples:
- Oxygen
- Nitrogen Peroxide
- Nitric Oxide
Class D – Poisonous and Infectious Materials

CLASS D

Division 1: Immediate & Serious Toxic Effects

Division 2: Other Serious Toxic Effects

Division 3: Biohazardous Infectious Material
Division 1: Immediate and Serious Toxic Effects

Definition:

- Materials that are poisonous substances which can cause serious health effects such as loss of consciousness, coma or death within minutes or hours after exposure

Examples:
- Formalin
- Methanol
- Isopropyl Alcohol
Division 2: Other Serious Toxic Effects

Definition:
• Material causing toxic effects such as skin or respiratory sensitization, carcinogenicity, mutagenicity, etc.
• Effects may be acute or chronic

Examples:
• Acetone
• Xylene
Division 3: Biohazardous Infectious Materials

Definition:
• A material that contains organisms which can cause disease in humans or animals

Examples:
• AIDS/HIV virus
• Hepatitis B
Class E: Corrosive Materials

Definition:
• Chemicals that can attack or chemically destroy tissue or metals
• Most corrosives are either acids or bases

Storage & Handling Precautions:
• Store away from incompatible products such as other corrosives (e.g. acids and bases)
• Use in well ventilated areas
• Wear the appropriate personal protective equipment

Examples:
• Bleach
• Hydrochloric Acid
Class F: Dangerously Reactive Material

Definition:
• Materials that are very unstable. May react with water to release a toxic or flammable gas. May explode if heated when in a closed container and can undergo vigorous polymerization (small molecules joining together to form larger molecules).

Storage & Handling Precautions:
• Store away from incompatible substances
• Do not subject to friction, shock or impact.

Examples:
• Hydrogen Peroxide (91% by weight)
• Ethylene Oxide
WHMIS Exempt

The following are not controlled under WHMIS legislation. They are governed by other legislation.

- Radioactive Materials
- Consumer goods
- Explosives
- Drugs, Cosmetics, and Medical Devices
- Pesticides
- Wood
- Manufactured items
- Tobacco
- Hazardous wastes
How does WHMIS work?

- Information is provided in 3 ways:
  - Labels
  - Worker Training and Education
  - Material Safety Data Sheets (MSDSs)
• There are 3 types of labels that can be found in the workplace:
  – Supplier labels
  – Workplace labels
  – Laboratory labels
Supplier Labels

• Supplier labels must include ALL of the following pieces of information:

1. Name of Product
2. Name of Supplier
3. Reference to MSDS
4. Hazard Symbols
5. Risk Phrases
6. Precautionary Measures
7. First Aid Measures

MUST HAVE A WHMIS HATCHED BORDER
Workplace Labels

- Workplace labels are required when:
  - A product is decanted or transferred from its original supplier container to a different container.
    - It should be attached to a new container by the person decanting or transferring the product into the new container
  - A supplier label has been accidentally removed or has become difficult to read
  - A bulk shipment arrives without a Supplier Label
  - A controlled product is produced in the workplace
Workplace Labels

• Workplace labels must include **ALL** of the following pieces of information:

  1. Identity of Product
  2. Safe Handling Procedures
  3. MSDS Statement

*No Border Required / No Hazard Symbols / Many Formats*
Typical Workplace Label

METHANOL

Flammable
Avoid inhaling vapours
Refer to Material Safety Data Sheet

This particular sample has a border, but it is not required
Laboratory Labels

- Laboratory labels are special labels that can only be used in a laboratory. They are used instead of the supplier label if the controlled product:
  - Originates from a laboratory supply house;
  - Is intended for use in a laboratory; and
  - Individual containers of the products hold less than 10 kilograms.
Laboratory Labels

- Supplier of laboratory products is permitted to apply a label that:
  1. Identifies the product;
  2. Gives the appropriate risk phrases, handling precautions and first aid measures; and
  3. Indicates that an MSDS is available, if there is one.

*Does not require a border / hazard symbols / supplier identifier
Laboratory Labels

• If laboratory supply house product is transferred from original container to another container, *no* label is required.
• However, the second container must be identified through combination of identification and worker education to ensure lab employees can identify the product and know how to get additional information when needed.
MSDS (Material Safety Data Sheet)

• Material Safety Data Sheets are information sheets that contain detailed information on:
  – the chemical properties,
  – health and physical hazards and
  – safe handling, storage and disposal of controlled products
MSDS (Material Safety Data Sheet)

- Must be available for Controlled Products (except laboratory supply house products that may not have MSDSs) in the workplace
- Employer’s responsibility to provide
- Renewed every 3 years
- Must be readily available to workers
- Format varies – 9 standard categories
• MSDSs must include **ALL** of the following pieces of information:

1. Product Information
2. Hazardous Ingredients
3. Physical Data
4. Fire or Explosion Hazard
5. Reactivity Data
6. Toxicological Properties
7. Preventive Measures
8. First Aid Measures
9. Preparation Information

+ Any other information the supplier is aware of, or ought to be aware of.
Accessing MSDSs at NYGH

• My e-Tools → NYGH MSDS Database System

OR

• Quick Links → Occupational Health → MSDS Database

– Click the link for access to the NYGH MSDS Database System
Online MSDS Database System – Main Page

- MSDS Management Service
  - North York General Hospital

  Department/Location: North York General Hospital

  Browse or search for MSDSs from within your own custom collection or the entire CCOHS MSDS database using the various tools below.

  - Browse the North York General Hospital Custom Collection by MSDS.
  - MSDS Publications

- Advanced Search: MSDS
  - Select a specific database(s) or collection for your search using the checkboxes below:
    - North York General Hospital Custom Collection
    - CCOHS MSDS database
  - Date of MSDS: from YYYY-MM-DD to YYYY-MM-DD inclusive.
MSDS Search Option #1

- Use the drop-down list under Department/Location
- Identify site and then select particular department
- Click the link that loads next to Browse

(NOTE: All nursing units should be in compliance by using the MSDSs provided in the common "Nursing" folder)
MSDS Search Option #2

Search by Product Name under NYGH MSDS Collection

Type in product name and then de-select CCOHS MSDS Database.
Accessing MSDSs at NYGH

• Within the WHMIS manuals located on each unit (if they are available)
• Ask your manager if you are unable to find MSDSs for the chemicals that you are required to use
Routes of Entry

• Chemicals can harm you through:
  – Absorption: through the skin (or eye)
  – Inhalation: breathing in mist, dusts, fumes, vapours (*most common route of entry)
  – Injection: needlestick or puncture
  – Ingestion: swallowing
Storage, Handling & Disposal

• Do **NOT** use *unlabeled* products!
• Ensure that all unlabeled products are reported to manager and disposed of appropriately
• Read the MSDS and Label
• Follow **ALL** precautions & warnings
  – i.e. wear gloves, eye protection, apron, etc.
  – i.e. use in well ventilated area, use only in fume hood, etc.
• If you are unsure of the proper procedures - **ASK**!
Emergency Procedures: SPILL

Plan Ahead – *Do Not Panic*

Is the spill manageable?
- Ensure all necessary equipment and contacts are available
- Refer to the Material Safety Data Sheet
- Label and dispose of all waste material appropriately

Unmanageable?
- Call a Code Brown
- See Emergency Preparedness under Quick Links
Emergency Procedures: Exposure

You must:

• Know the location of eyewash station/deluge shower in your area
• Know how to access MSDS to get first aid information
• Seek medical attention immediately
  – Occupational Health is open:
    • M 7:00am - 4pm,
    • T, W, Th, F 7:30am - 4:30pm (GW-51)
  – Emergency department open 24 hours a day
Emergency Procedures: FIRE

- Every MSDS will contain fire and flammability information for that specific product

R.E.A.C.T.
R: Remove those in immediate danger
E: Ensure doors are closed
A: Activate alarm
C: Call ext. 5555
T: Try to fight the fire
Sources of Information

• Workplace Hazardous Materials Information System policy IV-c-10

• NYGH WHMIS Manual
  – (available on the Occupational Health, Safety and Wellness Department’s intranet site under Safety Program)

• MSDS Database System
  – houses additional information on chemical hazards available to all staff
Summary

Responsibility
Suppliers
Employers
Employees

Information
Labels
Training
MSDSs

Emergencies
Spill
Exposure
Fire
The Future of WHMIS

• In the near future, WHMIS rules will be revised with the implementation of the *Globally Harmonized System of Classification and Labeling of Chemicals* (GHS) in Canada.

• GHS is an international system that will standardize chemical hazard classification and communication globally.

• Stay tuned for information on the changes this new system will bring.
Thank You