

North Bay Regional Health Centre  Centre régional de santé de North Bay

Workplace Hazardous Material Information System





Course Outline

- Supplier, Employer and Worker Responsibilities
- Changes to WHMIS
- Classifications
- WHMIS Labels
- SDS
- How to prevent exposure





Learning Objectives

- Understand WHMIS
- Understand roles and responsibilities: suppliers, employers, and workers
- Understand the GHS symbols and how they relate to WHMIS
- Identify and understand the changes to the labels and SDS

Please note that this training module provides general information. You may require additional training related to the hazards specific to your job



Transition to WHMIS 2015

Global Harmonized System (GHS) is an **International** initiative to standardize chemical hazard classification and communication globally

In 2015 Canada adopted the GHS in WHMIS





Transition to WHMIS 2015

WHMIS is **Canada's** hazard communication system. Implementing GHS into WHMIS will change the way hazardous chemicals are labelled in Canada





Employer's Responsibilities

- Ensure all hazardous products are properly labelled
- Ensure all SDS are up-to-date and readily available
- Provide workers with education and training
- Ensure there are appropriate control measures



Worker's Responsibilities

- Participate in the training
- Follow safe procedures & use the proper PPE as directed by the employer
- Participate in identifying and controlling hazards
- Report any hazards or violations of the Act to their employer or supervisor

Right to Know – Right to Refuse – Right to Participate



Supplier's Responsibilities

- Ensure the appropriate classification of hazardous products
- Create and supply proper labels
- Create and supply updated Safety Data Sheets



WHMIS Pictograms

Workplace Hazardous Materials Information System

2015

Flame

- Flammable
- Self-Reactive
- Pyrophoric
- Self-Heating
- In Contact with Water, Emits Flammable Gases
- Organic Peroxide



Flame over Circle

Oxidizer

Exploding Bomb

- Explosive*
- Self-Reactive (severe)
- Organic Peroxide (severe)

Skull and Crossbones

Acute Toxicity (fatal or toxic)



Gas Cylinder

Gas Under Pressure

Corrosion

- Serious Eye Damage
- Skin Corrosion
- Corrosive to Metals

Biohazardous

Biohazardous Infectious Materials



Exclamation Mark

- Irritation (skin or eyes)
- Skin Sensitization
- Acute Toxicity (harmful)
- Specific Target Organ Toxicity (drowsiness or dizziness, or respiratory irritation)
- Hazardous to the Ozone Layer*

Health Hazard

- Carcinogenicity
- Respiratory Sensitization
- Reproductive Toxicity
- Specific Target Organ Toxicity
- Germ Cell Mutagenicity
- Aspiration Hazard



Environment

Aquatic Toxicity*

A GHS pictogram appropriate for the hazard

Physical Hazards Not Otherwise Classified
Health Hazards Not Otherwise Classified

NOTE: No pictogram is assigned to some hazard classes e.g., Combustible Dusts and Simple Asphyxiants, and some less severe hazard categories.

*Not required by WHMIS, but may be used.



Exploding Bomb

- Explosive
- Self-reactives
- Organic Peroxides



Corrosion

- Skin corrosion/burns
- Eye damage
- Corrosive to metals



Flame Over Circle

- Oxidizing gases
- Oxidizing liquids
- Oxidizing solids



Gas Cylinder

- Gases under pressure



Environment

- Aquatic toxicity



Skull & Crossbones

- Acute toxicity (fatal or toxic)



Exclamation Mark

- Irritant (eye & skin)
- Skin sensitizer
- Acute toxicity
- Narcotic effects
- Respiratory tract irritant
- Hazardous to ozone layer (non-mandatory)



Health Hazard

- Carcinogen
- Mutagenicity
- Reproductive toxicity
- Respiratory sensitizer
- Target organ toxicity
- Aspiration toxicity



Flame

- Flammables
- Pyrophorics
- Self-heating
- Emits flammable gas
- Self-reactives
- Organic peroxides



Biohazard

- Biohazardous infectious materials



Classifications - Physical

HAZARDS

- Explosives
- Flammable gases, liquids, solids
- Aerosols
- Gases under pressure
- Self heating substances and mixtures
- Self reactive substances and mixtures
- Pyrophoric Liquids, Solids
- Substances and mixtures – emit flammable gases when in contact with water
- Oxidizing gases, liquids, solids
- Organic Peroxides
- Corrosive to metals





Classifications - Health

HAZARDS

- Acute Toxicity
- Skin corrosion/irritation
- Serious eye damage/eye irritation
- Respiratory or skin sensitization
- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity – Single or repeated
- Aspiration hazard





Compressed Gas

Hazards



- Gas under pressure
- Excessive heat or violent force may cause container to rupture or explode
- Freezing hazard presented by rapid Excessive heat release of gas

Examples:

Propane, acetylene, natural gas (methane), hydrogen

Oxygen, carbon dioxide, nitrogen, helium

Chlorine, sulphur dioxide



Flammable & Combustible

Hazards



- May ignite if exposed to flame, spark or friction
- May combust or discharge a flammable gas on contact with water

Examples:

Gasoline, Xylene, Ethanol, Isopropanol (Flammable fl.pt. <37.8 C)

Diesel, Furnace Oil, Kerosene (Combustible fl.pt. >37.8 C but < 93.3 C)

Carbon, Magnesium

Propane, Acetylene, Natural Gas (methane)



Oxidizers

Hazards



Material that release oxygen or other oxidizing substances and thereby contributing to the combustion of flammable materials

- May cause fire/explosion in the presence of flammable or combustible materials
- Will accelerate fires and other oxygen dependent chemical reactions
- May aggressively oxidize other materials (skin, eyes, leather, fabrics, metals)

Examples:

Hydrogen Peroxide, Virox 5 (concentrate),
Nitrous oxide, Oxygen Gas,
Sodium Hypochlorite (bleach)



Poisonous & Infectious Materials/Acutely Toxic or Fatal Material

Hazards



- May threaten life or health if swallowed, inhaled, or absorbed through the skin
- Single exposure may cause immediate toxic effects

Examples:

Mercury and mercury compounds

Phenol, Xylene, Formalin

Although exempt from WHMIS

– pharmaceuticals, chemotherapy drugs



Other Toxic Effects



- Skin irritation
- Eye irritation
- Skin sensitization
- Specific target organ toxicity – single exposure (respiratory irritation, drowsiness, dizziness)
- **Examples: Acetone, Windex, etc.**



- Carcinogenicity
- Germ cell mutagenicity
- Respiratory sensitization
- Reproductive toxicity
- Specific target organ toxicity – single or repeated exposure
- Aspiration hazard
- **Examples: Silica, Lead, Asbestos, etc.**



Biohazardous Infectious Material

Hazard:



Material that presents the risk or danger of biological or viral infection on contact

- pathogenic infectious agent or its toxins which may cause serious infectious disease
- Even minuscule amounts (dusts, aerosols etc.) can cause illness

Examples: blood, tissue samples, urine, feces, vomit, bodily fluids, etc. which may be contaminated with bacteria, viruses or other microorganisms.



Corrosive Materials

Hazards



- Corrosive to skin, respiratory tract, mucous membranes
- Immediate damage can occur upon exposure

Examples:

Hydrochloric, Sulphuric, Glacial Acetic acids

Ammonia, Sodium Hydroxide

Mercury (removed)



Dangerously Reactive Materials

Hazard:



Self-reactive substances and mixtures, Organic peroxides

- Reactive materials can suddenly and unexpectedly release energy with seemingly little provocation
- Hazards include explosion, violent polymerization, flammable or poisonous gas release, spontaneous combustion, etc.

Examples:

Steris 20 - Organic Peroxides

These products have been eliminated from NBRHC



Environment

Canada has not adopted this GHS class into WHMIS



- **Hazardous to the aquatic environment – acute and chronic**
- **Hazardous to the ozone layer**

NOT A CONTROLLED
PRODUCT



Products Exempt from WHMIS

- **Consumer products** — anything that can be bought in hardware, grocery, department store
- **Other legislation** — if there is other legislation regulating the product (cosmetics, food, drugs, hazardous waste, etc)
- **Tobacco** — or products made of tobacco
- **Manufactured items** — safe to use



1 Product Identifier

The product name exactly as it appears on the container and on the Safety Data Sheet (SDS).

2 Hazard Pictograms

Hazard pictograms, determined by the hazard classification of the product. In some cases, no pictogram is required.

3 Signal Words

"Danger" or "Warning" are used to emphasize hazards and indicate the severity of the hazard.

4 Hazard Statements

Brief standardized statements of all hazards based on the hazard classification of the product.

5 Precautionary Statements

These statements describe recommended measures to minimize or prevent adverse effects from exposure to the product, including protective equipment and emergency measures.

6 Supplier Identifier

The company which made, packaged, sold or imported the product, and is responsible for the label and SDS.

7 Safe Handling Precautions

May include pictograms or other supplier label information.

8 Reference to SDS

If available.

Supplier Label

1 Product K1 / Produit K1



3 Danger

4 Fatal if swallowed.
5 Causes skin irritation.

5 Precautions:

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

Store locked up.
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 a POISON CENTRE or doctor.
Rinse mouth.

Danger

Mortel en cas d'ingestion.
Provoque une irritation cutanée.

Conseils :

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

Garder sous clé.
Éliminer le contenu/contenant conformément aux règlements locaux en vigueur.

EN CAS DE CONTACT AVEC LA PEAU: Laver abondamment à l'eau.

En cas d'irritation cutanée: Demander un avis médical/consulter un médecin.

Éliminer les vêtements contaminés et les laver avant réutilisation.

EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPISON ou un médecin.
Rincer la bouche.

6 ABC Chemical Co., 123 rue Anywhere St., Mytown, ON N0N 0N0 (123) 456-7890

Workplace Label*

1 Product K1

7

Danger

Fatal if swallowed. Causes skin irritation.

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

8

See SDS for more information.



How to Prevent Exposure

Routes of Entry

Injection



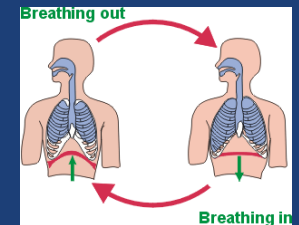
Ingestion



Absorption



Inhalation

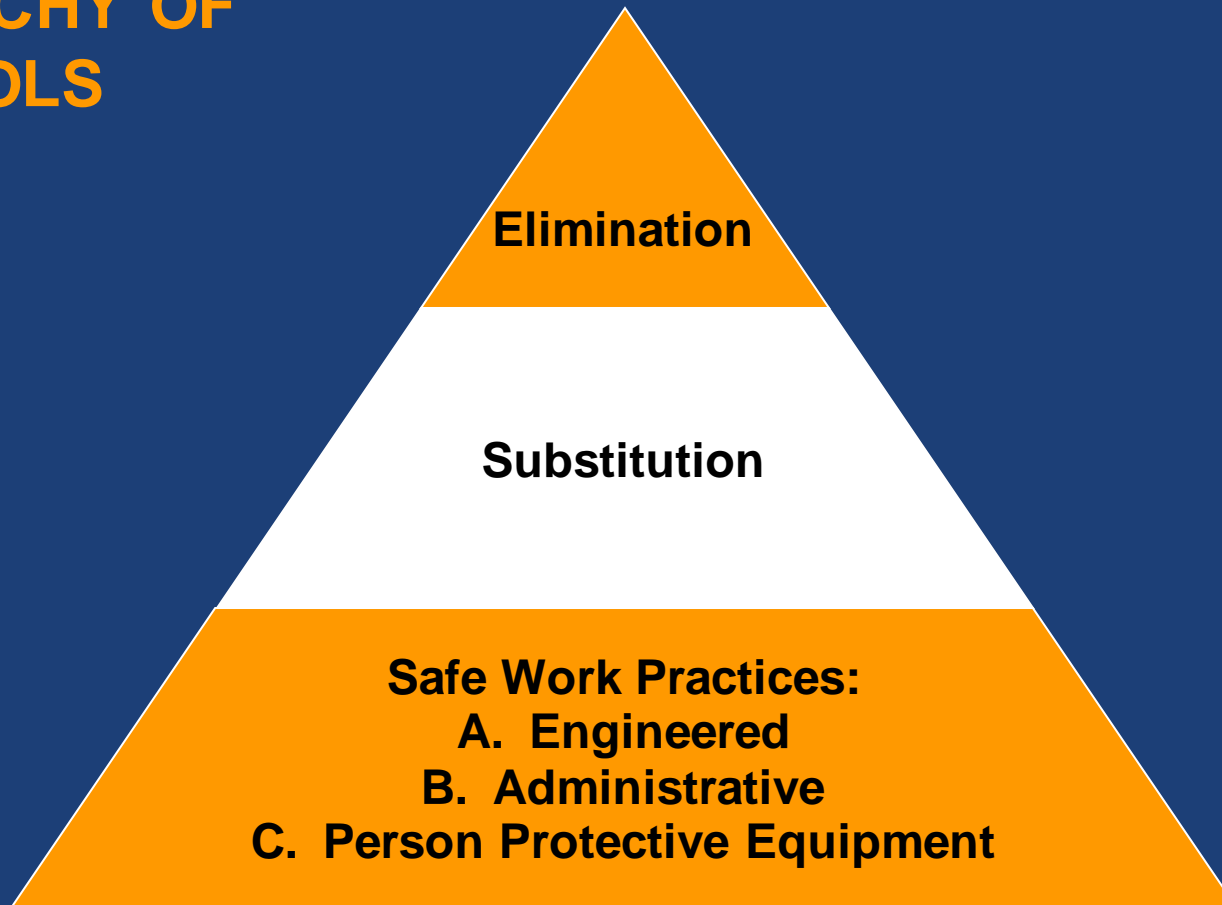


Knowing how a product can enter into your system is important when we are looking at how to protect ourselves from getting hurt or ill while we are at work.



Controlling a Hazard

HIERARCHY OF CONTROLS





Controlling a Hazard

- A. **Engineered** - includes designs or modifications to equipment, ventilation systems, and processes that reduce the hazard at the source of exposure
- B. **Administrative** – altering the way the work is done we can reduce the exposure along the path i.e. policies, and **work practices** such as standards and operating procedures (including training, housekeeping, equipment maintenance, and personal hygiene practices)
- C. **PPE** - equipment worn by individuals to reduce exposure such as contact with chemicals or exposure to noise



Safety Data Sheets

1. Identification
2. **Hazard Identification**
3. Composition/Information on ingredients
4. First-aid Measures
5. Fire-fighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure Controls/Personal Protection
9. Physical and Chemical Properties
10. Stability and Reactivity
11. **Toxicological Information**
12. **Ecological Information**
13. **Disposal Considerations**
14. **Transport Information**
15. **Regulatory Information**
16. **Other Information**



How to find a SDS

When you open the NBRHC Intranet Home Page you will find the Safety Data Sheet Button. Click the button to open the search page to find the safety data sheet that you are looking for.

North Bay Regional Health Centre Centre régional de santé de North Bay

User name:
Password: [Sign In](#)

Intranet

Home Policy Library Documents & Forms Departments Resources Job Postings Employee Directory Learning Centre Service Desk

Leadership Quick Links

- Governance Home (SharePoint)
- Senior Leadership Team
- VP Portfolio Committees
- Management Forum
- Extended Management Forum
- Medical Advisory Committee
- Members of the Board of Directors

Clinical Quick Links

- Bed and Service Allocation
- Slowdown/Closures
- DSM 5
- e-CPS
- Parenteral Manual
- Micromedex
- Isolation Guidelines
- Patient Transfer Authorization Centre
- Senior Friendly Care Advocate Program
- Bloody Easy 4
- IVIg Dose Calculator
- Palliative Care Symptom Management Handbook

Contact Quick Links

- Departments, Sites & Partners
- NBRHC Employee Directory
- NBRHC Fax List
- Physician Speed Dial Contact
- Professional Staff / Complementary & Alternative Therapy Listing

Hospital Wide Quick Links

- Staff Gateway

HIS PROJECT ONE

COVID-19 (Coronavirus)

Safety Data Sheets (MSDS)

NBRHC Website

Report (Event Reporting)

Governance Home (SharePoint)

Staff Gateway

Emergency Preparedness

Occupational Health (Wellness during COVID-19)

Job Postings

Business Intelligence Tool (BI)

Vocera Material

Streaming Radio



How to find a SDS

When doing a search you have an number of options

1. Type the product name into the search bar and click on the search button
2. You can use one of the fields and select a category followed by the search button
3. Or search alphabetically

https://msdsmanagement.msdsonline.com/c8e1b753-fff0-4a25-b342-a50935180b65/ebii

MSDS Search | MSDSOnline

Log In Edit Memory Help Center

North Bay Regional Health Centre Centre régional de santé de North Bay

Safety Center MSDS Search

MSDS Search

Locations: Select Location Groups: Select Group Product Data: Select Product Data

Product Status: Active Custom Module:

Search Reset

Product name starts with: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 #+=

5:13 PM 22/06/2016



How to find a SDS

Click on the name of the correct product to access a quick view of the (M)SDS

Or Click the PDF Icon to go directly to the (M)SDS

MSDS Search

Formalin

Product name starts with: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9 #+ =

5 Products

Narrow Results	Product	Revision Date	Product CAS #
<input type="checkbox"/> - By Manufacturer Medical Chemical Corp (1) Thermo Fisher Scientific (3)	10% NEUTRAL BUFFERED FORMALIN, V/V Manufacturer: DERMATOLOGIC LAB & SUPPLY INC	01/01/2008	
<input type="checkbox"/> - By Language English (5)	FORMALIN 1:10 Manufacturer: Medical Chemical Corp	04/17/2014	
<input type="checkbox"/> - By Regulatory Format US ANSI (5)	Formalin 10% aqueous solution 10% OF A SOLUTION WITH 37% FOR Manufacturer: Thermo Fisher Scientific Fisher Scientific	09/26/2007	
<input type="checkbox"/> - By Ingredient FORMALDEHYDE (4) FORMALDEHYDE (1) METHANOL (1) METHANOL (1) METHYL ALCOHOL (3)	FORMALIN, BUFFERED, 10% Manufacturer: Thermo Fisher Scientific Fisher Scientific	07/17/2012	
	Formaldehyde solution 37% FORMALIN:METHANOL:METHYLENE OX Manufacturer: Thermo Fisher Scientific Fisher Scientific	02/08/2010	



How to find a SDS

To open the document you must click on

View the PDF.

Once the PDF is open you are able to print, email or save the (M)SDS.

The screenshot shows the MSDSonline website interface. The search bar contains the word "formalin". Below the search bar, a table lists search results. A red arrow points from the text "View the PDF." to the PDF icon in the first search result. A second red arrow points from the text "Once the PDF is open you are able to print, email or save the (M)SDS." to the PDF preview window.

Narrow Results		Product	Revision Date	Product CAS #
<input type="checkbox"/> - By Manufacturer	1	10% NEUTRAL BUFFERED FORMALIN, V/V Manufacturer: DERMATOLOGIC LAB & SUPPLY INC	01/01/2008	
<input type="checkbox"/> DERMATOLOGIC LA... (1)	2			
<input type="checkbox"/> Thermo Fisher Sc... (1)	3			
<input type="checkbox"/> - By Language				
<input type="checkbox"/> English (5)				
<input type="checkbox"/> - By Regulatory Format				
<input type="checkbox"/> US ANSI (5)				
<input type="checkbox"/> - By Ingredient				
<input type="checkbox"/> FORMALDEHYDE (4)				
<input type="checkbox"/> FORMALDEHYDE (1)				
<input type="checkbox"/> METHANOL (1)				
<input type="checkbox"/> METHANOL (1)				
<input type="checkbox"/> METHYL ALCOHOL (3)				

10% NEUTRAL BUFFERED FORMALIN, V/V

8.50 x 11.00 in

Fisher Scientific

Questions?

Please call Occupational Health Safety & Wellness

