



WHMIS 2015

WORKSHOP OBJECTIVES

1. Define WHMIS and GHS
2. Describe the important hazard groups
3. Identify and describe the nine pictograms
4. Identify WHMIS supplier labels and elements of a workplace label
5. Identify the sections of a safety data sheet
6. Understand the requirements for workplace-specific training

INTRODUCTION TO WHMIS



WHAT IS WHMIS?

- WHMIS: **W**orkplace **H**azardous **M**aterial **I**nformation **S**ystem
- WHMIS is the regulatory requirement in Canada to classify chemical and biological agents and communicate their hazards
- WHMIS has been updated to incorporate elements of the Globally Harmonized System (GHS) for Classification and Labelling Chemicals



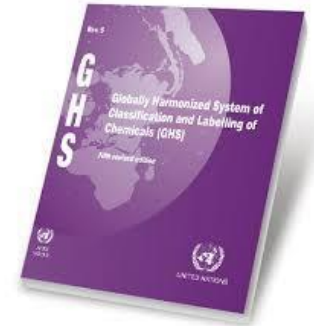
REGULATORY REQUIREMENTS

- Federal
 - Hazardous Products Act (HPA)
 - Hazardous Products Regulation (HPR)
 - Hazardous Materials Information Review Act (HMIRA)
- Provincial
 - In N.B., Regulation 2016-6 Workplace Hazardous Materials Information System



WHAT IS GHS?

A system used to classify chemicals and communicate hazards worldwide.



Important :

- Hazard classes are globally consistent
- Information found on supplier labels and Safety Data Sheets (SDSs) are globally consistent

Note: GHS does not replace WHMIS.



WHMIS

WHMIS 2015 incorporates the following GHS elements:

- Classification rules and hazard classes
- Hazard pictograms
- Supplier label requirements
- Format of safety data sheets

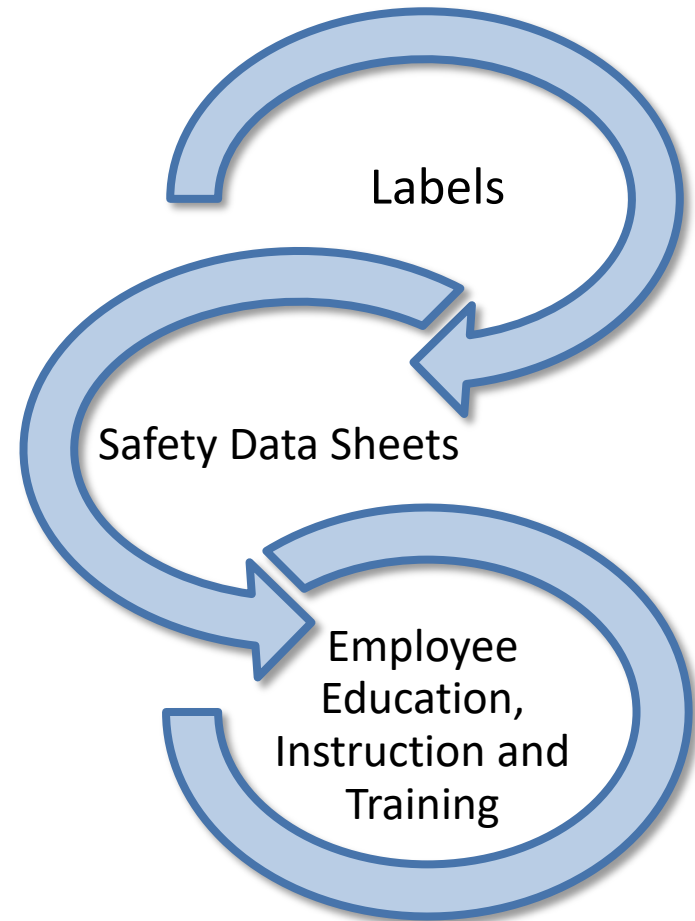
Note: WHMIS retains the classification for biohazardous materials.



WHMIS COMPONENTS

WHMIS still has three main components:

Note: A fourth component is Confidential Business Information

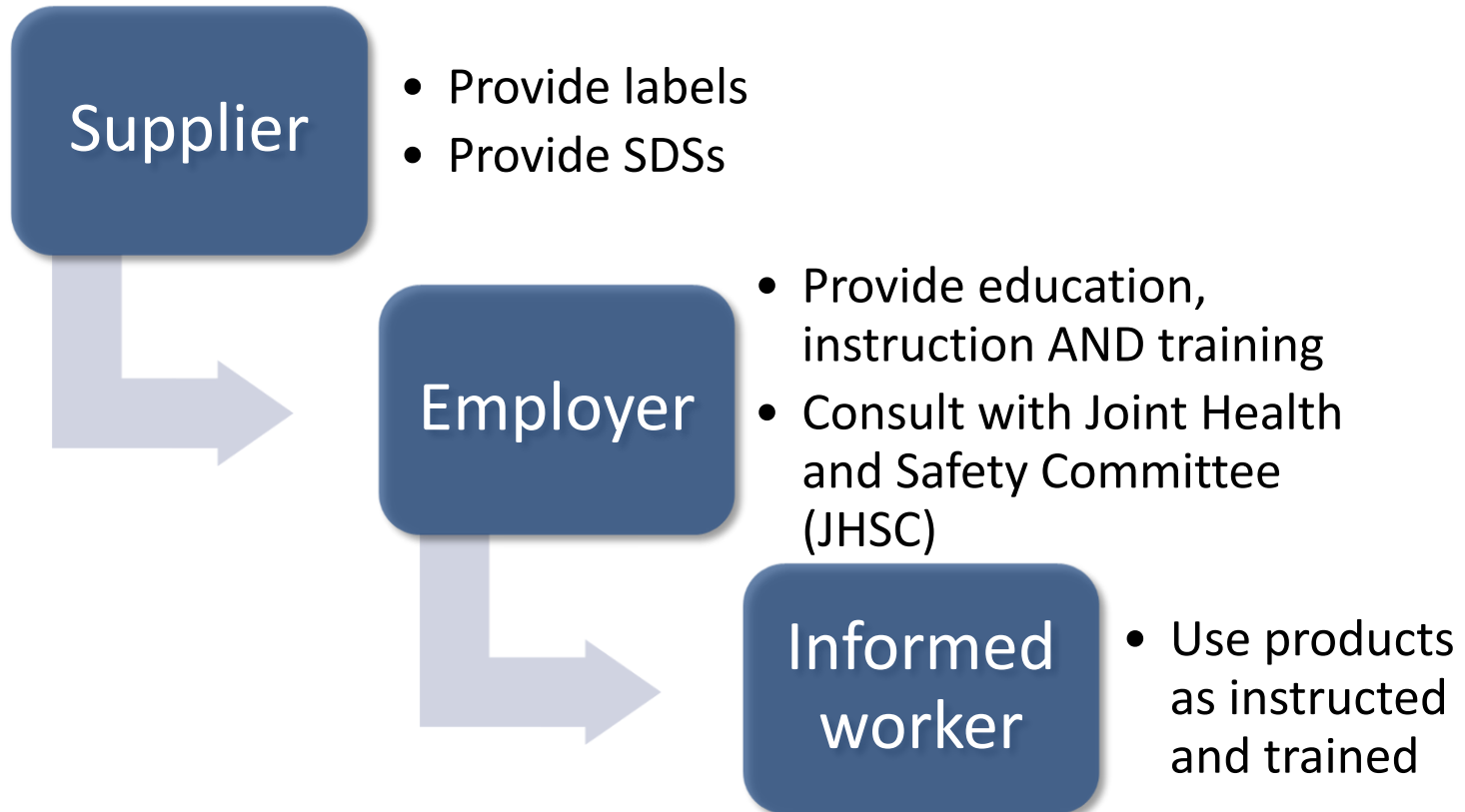


AN EFFECTIVE WHMIS PROGRAM...

- Reduces risk of incidents and injuries
- Ensures hazardous products are properly labelled
- Ensures proper communication of hazards through SDSs
- Ensures workers have the correct information to protect themselves
- Limits other employees' exposure to hazardous products



FLOW OF INFORMATION



HAZARD CLASSIFICATION SYSTEM

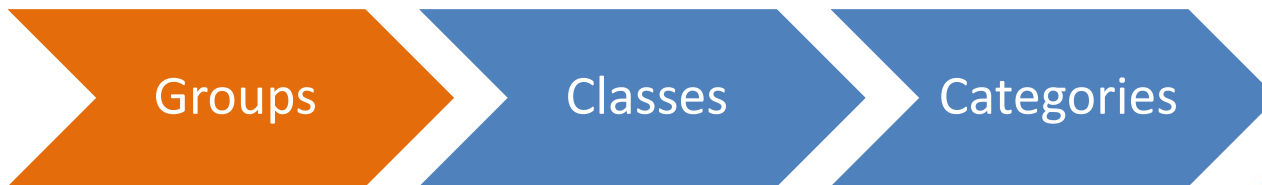


HAZARD GROUPS

Hazards are categorized by groups which are broken down into classes which are further broken down into categories.

There are two groups of WHMIS hazards :

- Physical hazards
- Health hazards



- Physical
- Health



HAZARD CLASSES

Groups are divided into hazard classes:

- 20 physical hazards
- 12 health hazards

Note: Environmental hazards are classified in GHS but not mandatory in WHMIS.



- 20 Physical
- 12 Health

WHMIS 2015 PHYSICAL HAZARD CLASSES

- Explosives*
- Flammable gases
- Flammable aerosols
- Oxidizing gases
- Gases under pressure
- Flammable liquids
- Flammable solids
- Self-reactive substances and mixtures
- Pyrophoric liquids
- Pyrophoric solids
- Self-heating substances and mixtures

Note: WHMIS 2015 has not adopted the explosive hazard class as it's covered by other legislation.



WHMIS 2015 PHYSICAL HAZARD CLASSES (CONTINUED)

- Substances and mixtures that, in contact with water, emit flammable gases
- Oxidizing liquids
- Oxidizing solids
- Organic peroxides
- Corrosives to metals
- Pyrophoric gases
- Combustible dusts
- Simple asphyxiants
- Physical hazards not otherwise classified

WHMIS 2015 HEALTH HAZARD CLASSES

- 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 exposure
- Specific target organ
toxicity - repeated
exposure
- Aspiration hazard

WHMIS 2015 HEALTH HAZARD CLASSES (CONTINUED)

- Biohazardous infectious materials
- Health hazards not otherwise classified

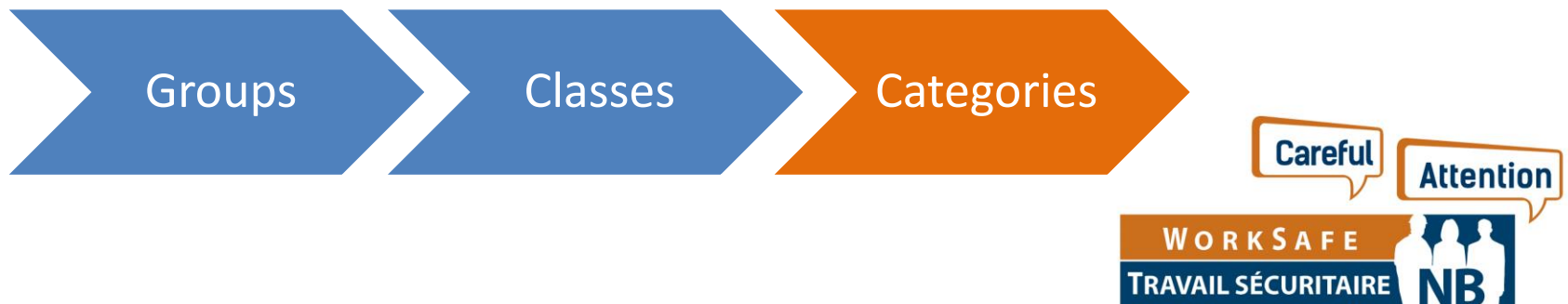
HAZARD CATEGORIES

The hazard classes may be further divided into one or more hazard categories (Categories 1-4)

- Category 1 is the highest level of hazard (most hazardous) category

Hazard classes may also be divided into one or more hazard “types” (instead of category)

- A = greatest level of hazard (most hazardous) type

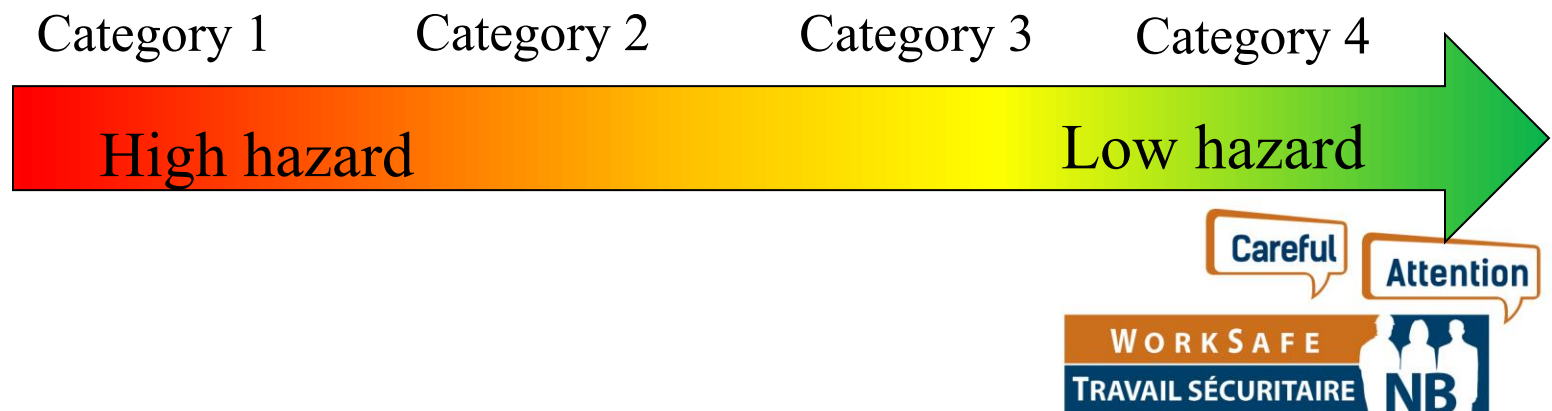


SUB-CATEGORIES

Sometimes categories are also divided into sub-categories (depending on the class)

Example: If a product is classified as follows:

- 1A – greatest level of hazard
- 1C – less hazardous than 1A
- 2 – less hazardous than 1C



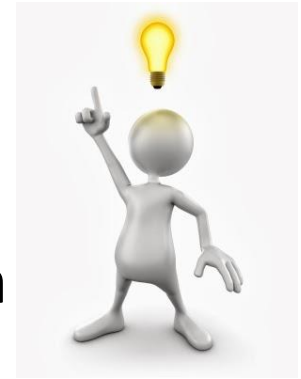
TEST YOUR UNDERSTANDING

1. Does GHS replace WHMIS?
2. What are the three major components of WHMIS?
3. What does an effective WHMIS program ensure?
4. How many physical hazard classes are there?
5. What represents a higher level of hazard (more hazardous) ... category 1 or category 4?



ANSWERS










1. No. WHMIS has been updated to align with the GHS classification system, SDSs, labels and pictograms. The rest of WHMIS stays the same.
2. SDSs, labels and worker education (this includes education, instruction and training).
3. See slide 9.
4. There are 20 physical hazards.
5. Category 1 is more hazardous.



WHMIS PICTOGRAMS



WHMIS 2015 PICTOGRAMS

<p>Health Hazard</p> 	<p>Flame</p> 	<p>Exclamation Mark</p> 
<p>Carcinogen, mutagenicity reproductive toxicity, respiratory sensitizer Specific target organ toxicity-single exposure Specific target organ toxicity-repeated exposure Aspiration hazard</p>	<p>Flammable gases, aerosols, liquids, solids Pyrophoric liquid, solid, gas Self-heating substances Emits flammable gas in contact with water Self-reactive Organic peroxide</p>	<p>Irritant (skin and eye) Skin sensitizer Acute toxicity (harmful via oral, skin, inhalation) Respiratory tract irritant</p>
<p>Gas Cylinder</p> 	<p>Corrosion</p> 	<p>Exploding Bomb</p> 
<p>Gas under pressure</p>	<p>Skin corrosion Serious eye damage Corrosive to metals</p>	<p>Explosives Self-reactive substances and mixtures Organic peroxides</p>
<p>Flame Over Circle</p> 	<p>Skull and Crossbones</p> 	<p>Biohazardous Infectious Material</p> 
<p>Oxidizers (liquids, solids, gases)</p>	<p>Acute toxicity (fatal or toxic via oral, skin, inhalation)</p>	<p>Biohazardous infectious material</p>

WHAT DOES THIS PICTOGRAM MEAN?



Gas under pressure

- May explode if heated
- Can rocket or torpedo at great speed if ruptured
- May cause frostbite when in contact with skin

WHAT DOES THIS PICTOGRAM MEAN?



Fire hazard

- Materials can catch fire and burn easily
- Flash point < 93°C

WHAT DOES THIS PICTOGRAM MEAN?



Oxidizing material

- Releases oxygen or other components
- Reacts with flammable materials to increase risks
- Can cause combustibles to become flammable

WHAT DOES THIS PICTOGRAM MEAN?



Explosive or reactive

- Unstable
- Flammable

WHAT DOES THIS PICTOGRAM MEAN?



Corrosive to metals

- Damages or destroys metals

Corrosive to eyes and skin

- Causes skin corrosion or irritation
- Causes serious eye damage or irritation



WHAT DOES THIS PICTOGRAM MEAN?



Toxic or fatal after short exposure

- Toxicity may occur through single incident contact with skin, inhalation or ingestion or a combination of these exposures



WHAT DOES THIS PICTOGRAM MEAN?



Serious health hazards

- Causes occupational diseases or death
 - Genetic mutations
 - Respiratory sensitization
 - Cancer
 - Lung damage
 - Reproductive damage (parent and/or fetus)
 - Organ damage



WHAT DOES THIS PICTOGRAM MEAN?



Less serious health hazards

- Causes sensitization, irritation or toxicity when ingested, inhaled or in contact with eyes and/or skin

WHAT DOES THIS PICTOGRAM MEAN?



Biohazardous infectious materials

- Biological materials that can cause mild or serious infection

Note: This category is unique to Canada.

ENVIRONMENTAL HAZARD CLASSES

- Hazardous to the aquatic environment
- Hazardous to the ozone layer



These hazard classes are not included in Canadian WHMIS legislation

HAZARD STATEMENTS AND SIGNAL WORDS

- There are **two** signal words: **Danger** (higher-level hazards) and **Warning** (moderate-level hazards).
 - Note: Sometimes no signal word is used for low-level hazards
- Hazard statements describe the nature and degree of the hazard:
 - Example: Extremely flammable aerosol
 - Example: May be corrosive to metals
- The pictogram(s), signal word and hazard statement(s) must be grouped together on a supplier label.



TEST YOUR UNDERSTANDING

1. What WHMIS 2015 pictograms have you seen in your workplace?
1. Rank these hazard statements from highest to lowest hazard:
 - Toxic if inhaled
 - May cause allergy, asthma symptoms or breathing difficulties if inhaled
 - Harmful if inhaled
 - Fatal if inhaled



ANSWERS

1. Answers vary by workplace.
2. From highest to lowest hazard:
 - Fatal if inhaled
 - Toxic if inhaled
 - Harmful if inhaled
 - May cause allergy, asthma symptoms or breathing difficulties if inhaled



WHMIS LABELS



LABELS

Two types:

1. Supplier label (prepared and provided by the supplier)
2. Workplace labels (developed and used in the workplace)





SUPPLIER LABEL

Find the following elements:

- A. Product identifier
- B. Pictogram
- C. Signal word
- D. Hazard statement
- E. Precautionary statements
- F. Supplier information

Note: Label must be in English and French.

Product WSNB-1 / Produit WSNB-1




<h3>Danger</h3> <p>Fatal if swallowed. Causes skin irritation.</p> <p>Precautions: Wear protective gloves. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.</p> <p>Store locked up. Dispose of contents/containers in accordance with local regulations.</p> <p>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.</p>	<h3>Danger</h3> <p>Mortel en cas d'ingestion. Provoque une irritation cutanée.</p> <p>Conseils : Porter des gants de protection. Se laver les mains soigneusement après manipulation. Ne pas manger, boire ou fumer en manipulant ce produit.</p> <p>Garder sous clef. Éliminer le contenu/récipient conformément aux règlements locaux en vigueur.</p> <p>EN CAS DE CONTACT AVEC LA PEAU : Laver abondamment à l'eau. En cas d'irritation cutanée : Demander un avis médical/consulter un médecin. Enlever les vêtements contaminés et les laver avant réutilisation. EN CAS D'INGESTION : Appeler immédiatement un CENTRE ANTIPOISON ou un médecin. Rincer la bouche.</p>
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ABC Chemical Co., 123 rue Anywhere St., Mytown, ON NON ONO (123) 456-7890

SUPPLIER LABEL

- A. Product identifier
- B. Pictogram
- C. Signal word
- D. Hazard statement
- E. Precautionary statements
- F. Supplier information

A **Product WSNB-1 / Produit WSNB-1**

B 

C **Danger**

D Fatal if swallowed.
Causes skin irritation.

E **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 clef.
Éliminer le contenu/récipient conformément aux règlements locaux en vigueur.

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

- Find the following elements:
 - A. Product name
 - B. Precautionary statements
 - C. Reference to SDS
- Note: workplace label can be in one language (the language(s) of the workplace)

PRODUCT K1

Precautions:

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



See SDS for more information



WORKPLACE LABEL

- A. Product name
- B. Precautionary statements
- C. Reference to SDS

A

PRODUCT K1

B

Precautions:

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



C

See SDS for more information


TEST YOUR UNDERSTANDING

WHAT'S MISSING ON THIS WORKPLACE LABEL?



DEGREASEALINE

DANGER



PRECAUTIONARY STATEMENTS:
Keep container tightly closed. Do not breathe vapors, suspected of causing cancer by inhalation. Wear respiratory protection, gloves and coveralls. Store in a well ventilated place. Keep cool. Keep away from heat/sparks/open flame. No smoking. Dispose of contents/container in accordance with local regulations.
FIRST AID: If exposed seek immediate medical attention.

EMERGENCY: 1-800-234-5678
ABC Fine Chemicals, 1234 Over There St., Any Town
Tel: (123) 456-7890



ANSWER

REFERENCE TO SDS IS MISSING



DEGREASEALINE

DANGER



PRECAUTIONARY STATEMENTS:
Keep container tightly closed. Do not breathe vapors, suspected of causing cancer by inhalation. Wear respiratory protection, gloves and coveralls. Store in a well ventilated place. Keep cool. Keep away from heat/sparks/open flame. No smoking. Dispose of contents/container in accordance with local regulations.
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SAFETY DATA SHEETS



SAFETY DATA SHEET (SDS)

- A document with 16 sections that must accompany each hazardous product
 - Bilingual or two separate English/French documents
- Detailed information on:
 - Controls (protection from hazards)
 - Safe handling
 - Safe use
 - Storage
 - Emergency procedures
- Always read the SDS before using the product



REQUIRED 16 SECTIONS OF AN SDS

1. Product identifier
2. Hazard identification
3. Composition/ingredient information
4. First aid measures
5. Firefighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection



16 SECTIONS (CONTINUED)

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

BIOHAZARDOUS INFECTIOUS MATERIALS

- Must have a modified nine-section SDS with specific information
- Section headings:
 - Infectious agent
 - Hazard identification
 - Dissemination
 - Stability and viability
 - First aid/Medical
 - Laboratory hazard
 - Exposure controls/Personal protection
 - Handling and storage
 - Regulatory and other information



WHMIS EXEMPTIONS

Certain products are exempt from WHMIS labelling and SDS requirements but they still require TRAINING

These include:

- Explosives
- Pesticides
- Cosmetics, drugs, food
- Radioactive materials
- Consumer products
- Tobacco and tobacco products
- Wood and wood products
- Hazardous waste



TEST YOUR UNDERSTANDING

SDS ACTIVITY



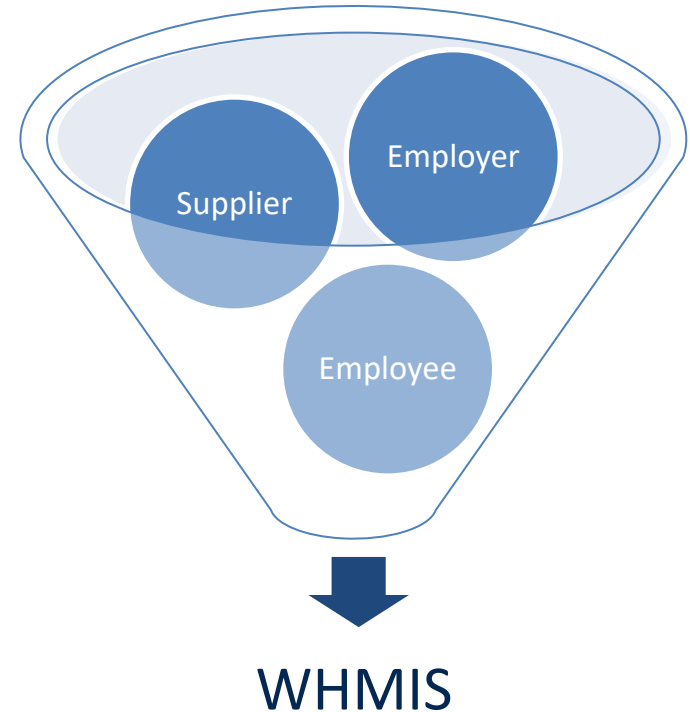
- Review the provided SDS and answer the corresponding questions.
- Note to facilitators: Choose an SDS for a product in the workplace. Create a questionnaire based on that SDS and hand it out to the participants.

RESPONSIBILITIES



WHMIS RESPONSIBILITIES

Suppliers, employers
and **employees** each
have a role to play to
make WHMIS work!



MANUFACTURERS, DISTRIBUTORS, SUPPLIERS AND EMPLOYERS FUNCTIONING AS SUPPLIERS

- Classify products using WHMIS 2015
- Create supplier labels that meet WHMIS 2015 requirements
- Prepare supplier SDSs that meets WHMIS 2015 requirements



EMPLOYERS

- Ensure hazardous products are properly labelled
- Ensure up-to-date SDSs are readily available to employees
- Provide education, instruction and training to employees
- Annually review WHMIS program with JHSC
- Periodically evaluate employees' knowledge



WHAT MUST WHMIS EDUCATION, INSTRUCTION AND TRAINING INCLUDE?

- General WHMIS information (education):
 - WHMIS definition
 - Pictogram identification (What do they mean?)
 - Required information on labels and SDSs
- Site-specific instruction and training:
 - Hazards related to specific products
 - Required procedures when exposed to/using hazardous products
 - Controls in place to reduce risk (PPE, limited access, etc.)
 - Location of the SDSs
 - What to do in an emergency



EMPLOYEES

- Complete education, instruction and training provided by employer
- Read labels and SDSs before access/exposure to hazardous products
- Follow the procedures developed by the employer working with/near hazardous products
- Know what to do in an emergency
- Know where to find more information
- Wash hands after handling hazardous products
- Ask questions when unsure how to control hazard



KEY POINTS

- Three key WHMIS elements:
 - Appropriate supplier labels
 - Accurate supplier SDSs
 - Comprehensive system of education, instruction and training
- The classification system helps us understand hazard types and severity
- Precautions are based on hazardous product classification
- Pictograms, signal word and hazard statements help us quickly recognize the hazard type
- It's important to read and follow the instructions on the labels and SDSs
- Suppliers, employers and employees all have responsibilities



MORE INFORMATION

WorkSafeNB

- [Transition to WHMIS 2015](#)

Canadian Centre for Occupational Health and Safety

- [WHMIS GHS Factsheet](#)

