

WHMIS 2015



Welcome!

Welcome!

- This module will take approximately 20 minutes to complete
- Please read each page carefully and follow any instructions then click the 'next' button to move forward
- This module contains audio, adjust your volume accordingly or wear headphones if available
- To view the audio script for each page click on 'Notes' on the top right of the player
- The menu is available on the left of the screen for you to monitor your progress through the module

Click on the audio icon to test your sound



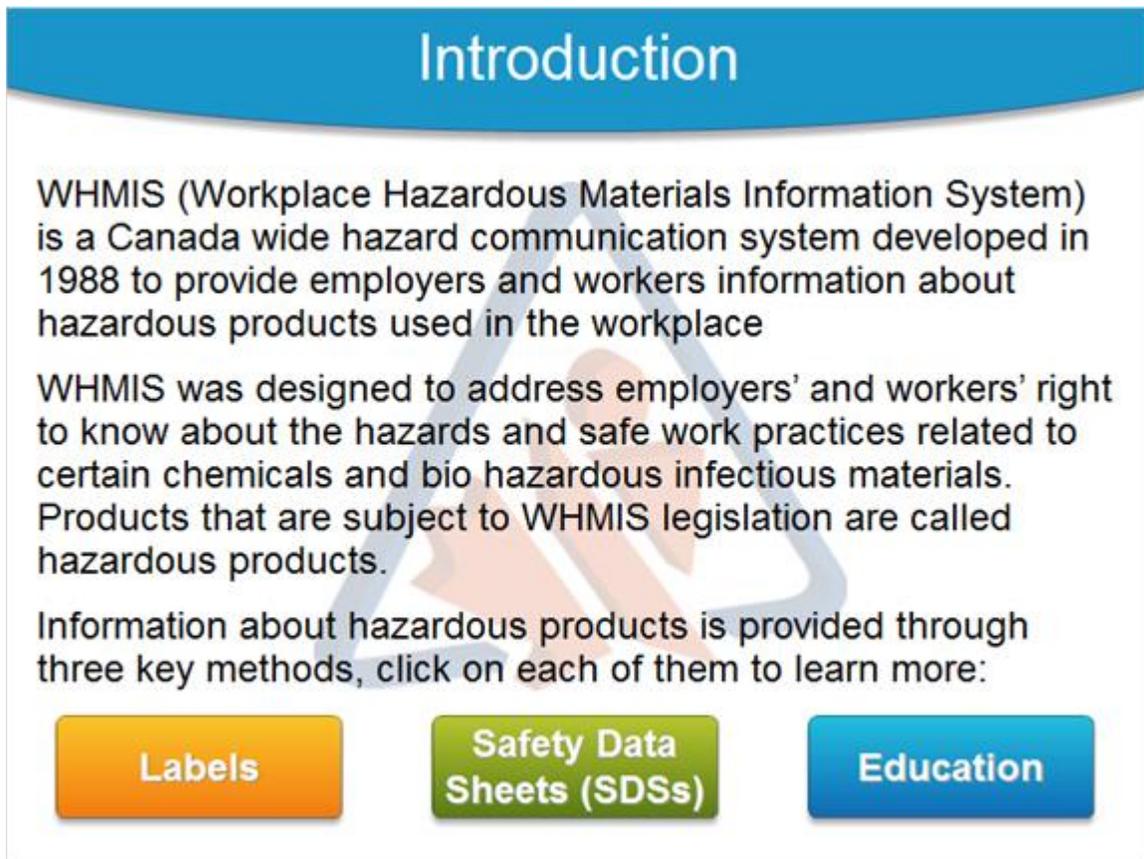
Objectives

Objectives

Upon completion of this course, you will:

- Be familiar with your responsibilities under WHMIS legislation
- Understand WHMIS hazard symbols, product labelling and how to review product safety information
- Understand routes of exposure and ways to keep safe
- Learn why the Globally Harmonized System (GHS) has been implemented and how it applies to WHMIS
- Understand the components of WHMIS 1988 that are still relevant in WHMIS 2015

Introduction



Introduction

WHMIS (Workplace Hazardous Materials Information System) is a Canada wide hazard communication system developed in 1988 to provide employers and workers information about hazardous products used in the workplace

WHMIS was designed to address employers' and workers' right to know about the hazards and safe work practices related to certain chemicals and bio hazardous infectious materials. Products that are subject to WHMIS legislation are called hazardous products.

Information about hazardous products is provided through three key methods, click on each of them to learn more:

[Labels](#) [Safety Data Sheets \(SDSs\)](#) [Education](#)

The following 3 slides cover Labels, SDSs and Education in more detail.

Introduction

Labels
Labels are affixed to containers of hazardous materials and provide information regarding the hazards



Labels **Safety Data Sheets (SDSs)** **Education**

Introduction

Safety Data Sheets (SDSs)

SDSs provide supplementary information about hazards that are outlined on the labels

Labels **Safety Data Sheets (SDSs)** **Education**

The slide features a blue header with the word "Introduction" in white. In the center, a large, faint hazard triangle is visible. Overlaid on the triangle is a green-bordered box containing the text "Safety Data Sheets (SDSs)" and "SDSs provide supplementary information about hazards that are outlined on the labels". Below this box are three colored buttons: an orange button labeled "Labels", a green button labeled "Safety Data Sheets (SDSs)", and a blue button labeled "Education".

Introduction



Education
Education on how to use the information provided, and training on how to safely handle hazardous products

Labels

Safety Data Sheets (SDSs)

Education

The Integration of WHMIS with GHS

The Integration of WHMIS with GHS

Starting in 2015, WHMIS was integrated with the Global Harmonized System (GHS) to help enhance worker safety.

GHS is an internationally agreed upon safety system which was developed by the United Nations, much like WHMIS was here in Canada, to protect workers when using controlled products in the workplace.

Suppliers and employers are required to adopt the new regulations as a result of the changes. WHMIS 1988 combined with GHS becomes WHMIS 2015.



What's New with WHMIS 2015?

What's New with WHMIS 2015?

WHMIS 2015 will now provide:

- **New** classification rules and hazard classes
- A standardized format for **Safety Data Sheets** (SDSs) which were formerly referred to as Material Safety Data Sheets (MSDSs)
- **New** hazard pictograms
- **New** label requirements

Click below for
more information:



More Information: Even though WHMIS 1988 is being integrated with GHS you will still need to be familiar with some of the components of WHMIS 1988 as you will still find them in the workplace.

Supplier Responsibilities are the Same

Supplier Responsibilities are the Same

The major responsibilities of suppliers have not changed. Suppliers continue to be accountable for:

- Classifying their products
- Obtaining or preparing SDSs for hazardous products
- Providing SDSs to customers, and labeling hazardous products

The responsibilities/duties of **employers** and **workers** remain the same.



Supplier Responsibilities

S U P P L I E R S

When a product is a controlled product according to the WHMIS legislation, a supplier must:

- Label the product or container to clearly identify the contents of the hazardous material.
- Provide a Safety Data Sheet (SDS) to customers. SDSs give detailed information about hazards and safe use of products.

Employer Responsibilities

E M P L O Y E R S

Employers are required to do the following:

- Establish education and training programs for workers exposed to hazardous products in the workplace.
- Ensure that all controlled products are properly labeled and up-to-date SDSs are present for each product and readily available to workers.

Worker Responsibilities

**W
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S**

Workers are required to do the following:

- Participate in the training programs and to use this information to help them work safely with hazardous materials.
- Inform employers when labels on containers have been accidentally removed or if the label is no longer readable.
- Familiarize themselves with the MSDSs/SDSs in their work area.

Additional Support

Additional Support

S U P P O R T

For additional support and consultation with WHMIS processes individual workers may contact the following:

- The Workplace Health, Safety and Wellness Department
- The Joint Health and Safety Committee (JHSC)

WHMIS 1988 vs. WHMIS 2015

WHMIS 1988 vs. WHMIS 2015	
WHMIS 1988	WHMIS 2015
Name of Regulation: Controlled Products Regulations	Name of Regulation: Hazardous Products Regulations
6 Hazard Classes <ul style="list-style-type: none">• 3 Divisions	31 Hazard Classes <ul style="list-style-type: none">• Multiple hazard categories
Material Safety Data Sheets: (MSDS) <ul style="list-style-type: none">• 9 Sections• Expire every 3 years	Safety Data Sheets: (SDS) <ul style="list-style-type: none">• 16 Sections• No expiry, only updated when there is a change
Symbols <ul style="list-style-type: none">• Contained in a black circle	Hazard Pictograms <ul style="list-style-type: none">• Contained in a red diamond

WHMIS 1988 vs. 2015 Symbols

WHMIS 2015 will use the GHS symbols:

- The GHS symbols are called a 'hazard pictogram'.
- You will still see WHMIS 1988 symbols until suppliers fully adopt the GHS hazard pictograms.
- As shown below, WHMIS 1988 symbols are contained in a black circle while WHMIS 2015 symbols are contained in a red square on point (diamond).



WHMIS Symbols Explained

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



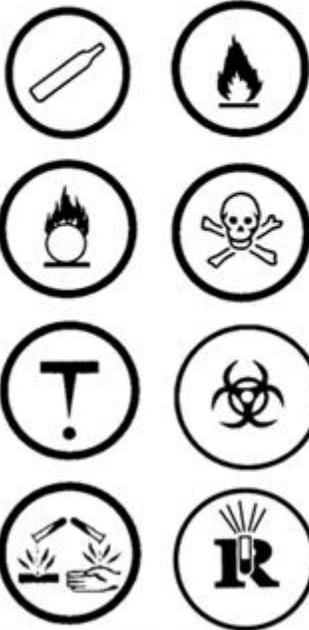
The image displays eight WHMIS 1988 hazard symbols arranged in a 4x2 grid. Each symbol is enclosed in a circle. The symbols are: 1. Compressed Gas (cylinder), 2. Flammable (flame), 3. Oxidizing (flame over circle), 4. Toxic (skull and crossbones), 5. Corrosive (T with exclamation mark), 6. Biohazard (biohazard symbol), 7. Environment (hands and leaves), 8. Radioactive (R with radiation symbol).

The following 8 slides cover each of the WHMIS 1988 symbols in more detail.

Class A – Compressed Gas

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



Class A: Compressed Gas

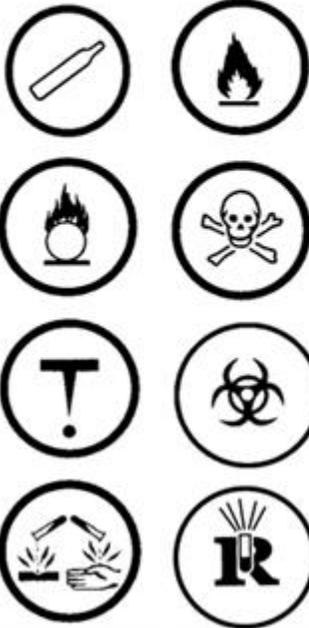
Precautions:

- Ensure container is always secured
- Store in appropriate designated areas
- Do not drop or allow to fall

Class B – Flammable & Combustible Materials

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



Class B: Flammable and Combustible Materials

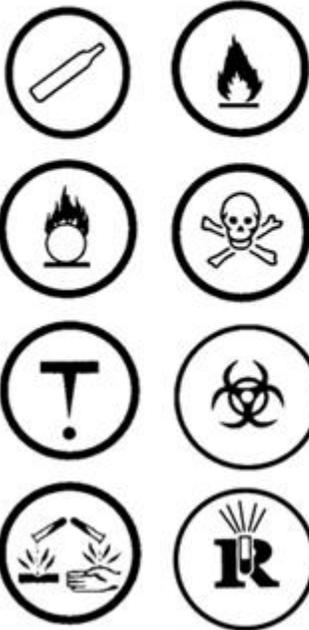
Risks:

- May ignite spontaneously
- May be a material which will release flammable products if allowed to degrade or when exposed to water

Class C – Oxidizing Materials

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



Class C: Oxidizing Materials

Precautions:

- Store in areas away from combustibles
- Wear body, hand, face and eye protection
- Store in proper containers which will not rust or oxidize

Class D – Poisonous & Infectious – D1 – Materials Causing Immediate & Serious Toxic Effects

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:

**Class D: Poisonous and Infectious
D1 – Materials Causing Immediate
and Serious Toxic Effects**

Precautions:

- Avoid breathing dust or vapours
- Avoid contact with skin or eyes

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



Class D: Poisonous and Infectious D2 – Materials Causing Other Toxic Effects

Risks:

- May cause death or permanent injury
- May cause birth defects or sterility
- May cause cancer
- May be a sensitizer causing allergies

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



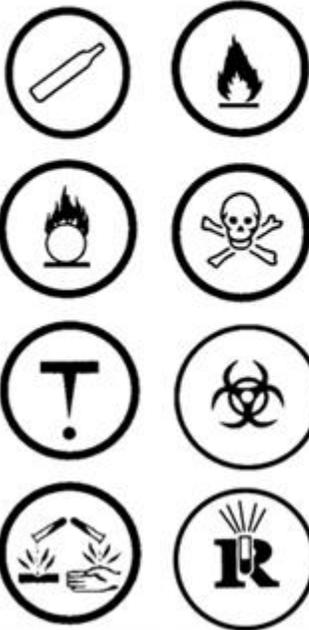
Class D: Poisonous and Infectious D3 – Biohazardous Infectious Material

Precautions:

- Avoid foaming aerosols
- Avoid breathing vapours
- Avoid contamination of people/area
- Store only in designated areas

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



Class E: Corrosive Materials

Risks:

- Eye and skin irritation on exposure
- Severe burns/tissue damage on longer exposure
- Lung damage if inhaled
- May cause blindness if eyes contacted
- Environmental damage from fumes

Class F – Dangerously Reactive Materials

WHMIS 1988 Symbols

Click on each of the 8 WHMIS symbols to learn more:



Class F: Dangerously Reactive Materials

Precautions:

- Handle with care
- Avoid vibration, shocks and sudden temperature changes

WHMIS Symbols Explained

WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



The image displays a 3x3 grid of nine hazard pictograms, each enclosed in a red diamond border. The pictograms are: Row 1: Flame (GHS02), Exclamation mark (GHS07), Health hazard (GHS08). Row 2: Skull and crossbones (GHS09), Corrosion (GHS05), Flame over a circle (GHS02). Row 3: Environment (GHS09), Gas cylinder (GHS02), Tree and fish (GHS09).

The following 9 slides will cover each of the WHMIS 2015 pictograms in more detail.

Flame

WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



Flame

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

WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



Exclamation Mark

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

WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



Health Hazard

- Carcinogenic
- Respiratory Sensitization
- Reproductive Toxicity
- Specific Target Organ Toxicity - Single or Repeated Exposure
- Germ Cell Mutagenicity
- Aspiration Hazard Layer

WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



Skull & Crossbones

– Acute Toxicity (fatal or toxic)

WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



Exploding Bomb

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

Flame Over Circle

WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



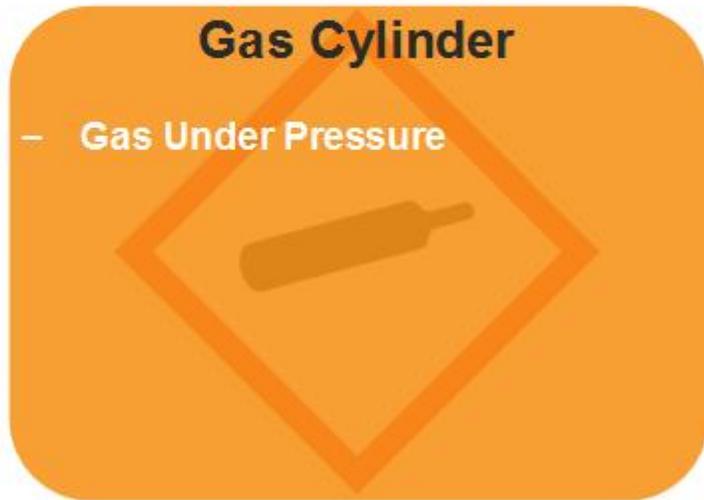
Corrosion

– Corrosive (skin, eyes, or metals)



WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



WHMIS 2015 Hazard Pictograms

Click on each of the 9 pictograms to learn more:



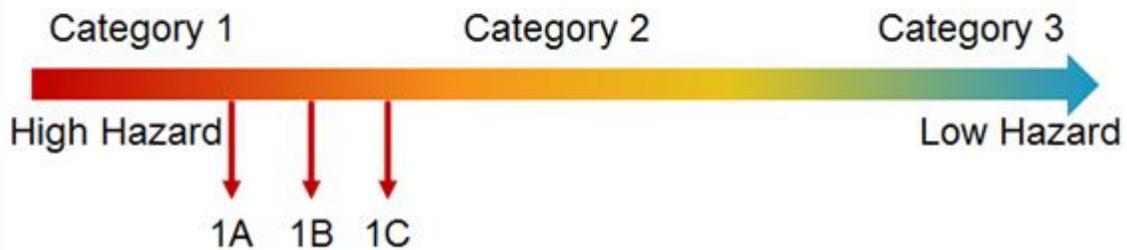
Environment

- Hazardous to the Aquatic Environment (acute or long term)

WHMIS 2015 Hazard Categories

All hazard classes have at least one hazard category.

- Categories are assigned a number (i.e. 1, 2, 3)
 - Subcategories (i.e. 1A, 1B, 1C)
- Categories can also be referred to as types (i.e. A, B, C)
- The lower the category number, the higher the hazard



WHMIS 2015 Classification

WHMIS 2015 Classification

Classification is the process of determining which hazard class or classes apply to a product.

WHMIS 2015 classification changes from the 6 broad hazard categories in WHMIS 1988 to 2 major hazard groups which contain classes specific to the hazard of the product:

- Physical – Contains 19 classes
- Health – Contains 12 classes

Click below to view the specific hazard classes:

Physical Hazard Classes

Health Hazard Classes

The following 2 slides cover the 'Physical Hazard Classes' and 'Health Hazard Classes' in more detail.

WHMIS 2015 Classification

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

Physical Hazard Classes

Health Hazard Classes

WHMIS 2015 Classification

- Acute toxicity
- Skin corrosion/irritation
- Serious eye damage/eye irritation
- Respiratory or skin sensitization
- Germ cell mutagenicity
- Carcinogenic
- Reproductive toxicity
- Specific target organ toxicity - single exposure
- Specific target organ toxicity - repeated exposure
- Aspiration hazard
- Biohazardous infectious materials
- Health hazards not otherwise classified

Physical Hazard Classes

Health Hazard Classes

Hazard Pictograms and Classification

It's important to remember that a Hazard Pictogram may represent more than one Hazard Classification. For example, the Health Hazard pictogram:



- **Carcinogenic**
- **Respiratory sensitization**
- **Reproductive toxicity**
- **Specific target organ toxicity - single or repeated exposure**
- **Germ cell mutagenicity**
- **Aspiration hazard**



A hazard class can also have more than one pictogram. Both symbols above warn of Acute Toxicity:

- The **Skull and Crossbones** applies to acute toxicity or fatal if exposed.
- The **Exclamation Mark** applies to less serious consequences i.e. respiratory sensitizer.

Labels

Product labels are an important means of communicating WHMIS information. Materials are labelled to provide:

1. **The first alert** that there are hazards associated with using the product
2. **Precautions** to take when using the product
3. **Information** and that there is a MSDS/SDS available which contains more detailed information on the product

Significant changes in WHMIS 2015 include:

- Hazard pictograms
- The use of signal words
- The use of hazard statements
- The use of precautionary statements

Suppliers are required to update their labels when new information becomes available.



Supplier Labels – General Comparison

Supplier Labels – General Comparison

All hazardous products received by suppliers require a label. Labels for WHMIS 1988 and WHMIS 2015 have different requirements:

WHMIS 1988	WHMIS 2015
1. Product identifier	1. Product identifier
2. Supplier Identifier (Name only)	2. Supplier identifier (Name, address, and telephone number)
3. Hazard Symbols (Circles)	3. Hazard pictograms (Symbol within a diamond)
4. Risk Phrases	4. Hazard statements*
5. Precautionary measures	5. Precautionary Statements (Prevention, storage and disposal)*
6. First Aid Measures	6. Precautionary statements (Response)*
7. Reference to MSDS	7. Reference to SDS
No WHMIS 1988 equivalent	8. Signal word (Danger or Warning)

* Suppliers must use standardized wording in Hazard and Precautionary statements.

Click below to view a sample of both types of label:

[WHMIS 1988 Label](#) [WHMIS 2015 Label](#)

The following 2 slides will cover the WHMIS 1988 and WHMIS 2015 labels in more detail.

WHMIS 1988 Sample Supplier Label

1. Product Identifier
2. Supplier identifier
3. Hazard Symbol
4. Risk Phrases
5. Precaution Measures
6. First Aid Measures
7. MSDS Reference

1 SOL 27 CLEANER
X-Y-Z CHEMICAL CO. **2**

5 Precautions: Eliminate all ignition sources. Keep away from sparks and open flames. Bond and ground transfer containers and equipment to avoid static accumulation. Ventilate area. Empty containers are hazardous, may contain flammable liquid residue or vapours. Wear suitable eye protection (chemical safety goggles).

3 **Flammable Liquid**
Liquid extrêmement inflammable

4 **Liquid extremely flammable**

6 First Aid: Flush contaminated eyes or skin with water. If overcome by vapours, move victim to fresh air. If ingested, do NOT induce vomiting. Obtain medical attention.

7 See Material Safety Data Sheet (MSDS) for more information.
Pour de plus amples renseignements, consulter la Fiche signalétique (FS).

7 **Toxic - Eye Irritant**
Toxique - Irritant oculaire

Précautions: Éliminer toute source d'inflammation. Tenir éloigné des étincelles et des flammes. Brancher à la terre les contenants de transfert et l'équipement pour éviter l'accumulation d'électricité statique. Bien aérer le secteur. Les contenants vides présentent un danger, car ils peuvent contenir un résidu de liquide ou de vapeur inflammable. Porter un dispositif de protection oculaire (lunettes protectrices contre les agents chimiques).

Premiers soins: Rincer la peau ou les yeux contaminés avec de l'eau. Changer d'environnement pour donner de l'air frais à la personne incommodée. Si avalé, NE PAS faire vomir. Contacter un médecin.

GHS Sample Supplier Label

Product Identifier	AMMONIA	
Signal Word	DANGER	Pictograms
Hazard Statement	TOXIC IF INGESTED Wash hands thoroughly after handling. Keep container tightly closed when not in use. Keep away from heat, sparks and open flames – may explode when exposed to high heat. Use in an open area that is well-ventilated.	
Precautionary Statements	Breathing in ammonia is irritating and corrosive. Wear protective gloves and safety goggles to prevent burns and irritation. If swallowed: Immediately call Poison Control or doctor/physician. Drink water or milk to dilute ammonia.	Reference to SDS See Safety Data Sheet (SDS) for further details regarding safe use of this product.
Supplier Information	ABC Chemical Company – 123 Fake Street – Ontario - 1-888-	

Workplace Labels

Workplace Labels

A workplace label must be applied if:

You transfer a product from the original supplier's container to another container for use in the workplace

OR

The original supplier label is lost, illegible or damaged

The following is required to appear on workplace labels:

1. Product Name

- Must match the product name listed on the MSDS/SDS

2. Safe handling precautions

- May include symbols/pictograms and other supplier label information

3. Reference to the MSDS/SDS



Safety Data Sheets

Safety Data Sheets

The MSDS is now referred to as a **Safety Data Sheet (SDS)**. It continues to be an essential component of WHMIS, providing information on product hazards and safe use.

The SDS has a **standard 16-section format** that offers the advantage of making information easier to find, since all SDSs have the same layout.

The SDS information includes:

- The products's **hazard classifications**
- A description of the most important **symptoms** resulting from exposure to the product, listed in First-aid measures



Safety Data Sheets Requirements

Safety Data Sheets Requirements

SDSs provide more detailed information than labels. All hazardous products must have an SDS.

Suppliers must:

- Supply a current SDS at the time of sale
- Update the SDS when they become aware of any significant new data
- Provide updates to the SDS within 90 days

Employers are required to:

- Have current SDSs (Update date is at the end of the SDS)
- Make all SDSs accessible to all workers
- Store in an accessible area known to everyone (May be electronic)

Employees are responsible to:

- Reference and understand SDS before handling the product

Safety Data Sheets Layout

Safety Data Sheets Layout

Section	Hazardous Products Regulations Heading
1	Identification
2	Hazard identification (including classification and label text)
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 relevant information

Accessing SDSs/MSDSs

SDSs/MSDSs are available on the Intranet:

General and Birchmount sites:

1. Click on 'Resources'
2. Then under 'Clinical Resources' click on the 'MSDS Quick Search'

Centenary site:

1. Under 'WEB APP LINKS' click 'MSDSonline Database'
2. Or refer to your office binder of resources

Searching MSDSonline

Searching MSDSonline

Search for SDSs by:

- Product name
- Manufacturer name

MSDSonline

Safety Center | MSDS Search

MSDS Search

Advanced Search

Locations: Select Location [v] Groups: Select Group [v] Product Data: Select Product Data [v]

Product Status: Active [v] 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 # +

The screenshot shows the MSDSonline search interface. At the top, there is a blue banner with the text "Searching MSDSonline". Below this, the text "Search for SDSs by:" is followed by a bulleted list: "Product name" and "Manufacturer name". The MSDSonline logo is in the top right corner. The main interface has a header with "Safety Center" and "MSDS Search". A sidebar on the left contains navigation options: "All Products", "Locations", "Manufacturers", and "MSDSonline Search". The main content area is titled "MSDS Search" and features a search input field with a magnifying glass icon and an "Advanced Search" link. Below the input field are three columns of filters: "Locations" with a "Select Location" dropdown, "Product Status" with an "Active" dropdown, "Groups" with a "Select Group" dropdown, and "Product Data" with a "Select Product Data" dropdown. There is also a "Custom Module" text input field. "Search" and "Reset" buttons are located below the filters. At the bottom of the search area, there is a row of characters: "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 # +". A red arrow points from the text "Search for SDSs by:" to the search input field.

Accessing SDSs

The screenshot shows the MSDSonline search interface. At the top, there is a blue header with the text "Accessing SDSs" and the MSDSonline logo. Below the header, there is a search bar with the text "FORMALIN" and a search button. To the right of the search bar is a link for "Advanced Search". Below the search bar, there is a dropdown menu for "Product name starts with:" with options from A to Z and a search button. The search results are displayed in a table with columns for "Narrow Results", "Product", and "Product Code". The first row shows "10% NEUTRAL BUFFERED FORMALIN" with a product code of "95.X00X". The second row shows "10% Neutral Buffered Formalin" with a manufacturer of "Thermo Fisher Scientific" and a product code of "23-005-46,23-005-45,23-005-27,23-005-30,23-005-28,23-005-32,61009". A red box highlights the product name in the first row, and a red arrow points to it from the text below.

To view or print an SDS, click the product name.

Summary

Summary

MSDS changes to SDS (Safety Data Sheets) as well as:

- Expanded to include 16 standardized sections.
- SDSs do not expire they need to be reissued by the supplier if there is a change

Label changes:

- Supplier label design and content will change

Changes to Hazard Symbols, now referred to as 'Pictograms':

- Includes some new symbols with existing ones differing in appearance

Product Classification changes:

Expanded from the 6 broad categories to more specific physical and health hazard groups and classes