

# WHMIS 2015

## The Basics



## About WorkSafeBC

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At WorkSafeBC, we're dedicated to promoting safe and healthy workplaces across B.C. We partner with workers and employers to save lives and prevent injury, disease, and disability. When work-related injuries or diseases occur, we provide compensation and support injured workers in their recovery, rehabilitation, and safe return to work. We also provide no-fault insurance and work diligently to sustain our workers' compensation system for today and future generations. We're honoured to serve the workers and employers in our province.

## Prevention Information Line

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We provide information and assistance with health and safety issues in the workplace.

Call the information line 24 hours a day, 7 days a week to report unsafe working conditions, a serious incident, or a major chemical release. Your call can be made anonymously. We can provide assistance in almost any language.

If you have questions about workplace health and safety or the Occupational Health and Safety Regulation, call during our office hours (8:05 a.m. to 4:30 p.m.) to speak to a WorkSafeBC officer.

If you're in the Lower Mainland, call 604.276.3100. Elsewhere in Canada, call toll-free at 1.888.621.7233 (621.SAFE).

# WHMIS 2015

## The Basics

## Health and safety resources

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You can find our health and safety resources on [worksafebc.com](https://worksafebc.com), and many of them can be ordered from the WorkSafeBC Store at [worksafebcstore.com](https://worksafebcstore.com).

In addition to books, you'll find other types of resources at the WorkSafeBC Store, including DVDs, posters, and brochures. If you have any questions about placing an order online, please contact a customer service representative at 604.232.9704 or toll-free at 1.866.319.9704.

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# Introduction

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This book explains the basics of the Workplace Hazardous Materials Information System (WHMIS), including the following:

- What is WHMIS? — background to WHMIS; key changes from WHMIS 1988 to WHMIS 2015; key elements and participants
- Classification — hazard groups, classes, and categories; products not covered by WHMIS
- Pictograms — introduction; pictograms vs. WHMIS 1988 hazard symbols; how pictograms are used and where to find them
- Labels — supplier labels, workplace labels, and other identifiers
- Safety data sheets (SDSs) — use, content, format, and trade secrets
- Putting WHMIS into action — WHMIS program; education and training

The overall purpose of WHMIS is to help ensure a safer, healthier workplace. WHMIS education helps you to understand how WHMIS works. WHMIS training gives you hands-on knowledge of how to work safely with specific products at your workplace.

When you have been successfully educated and trained in

WHMIS, you should be able to answer these four questions:

- What are the hazards associated with hazardous products? (For example, “How can this product hurt me?”)
- How do I protect myself? (For example, “What personal protective equipment should I wear?”)
- What should I do in an emergency? (For example, “What do I do if I spill it?”)
- Where do I get more information?



By understanding the information in this book, you will learn where to look on the label of a hazardous product, where to look on a safety data sheet, and what to discuss with your supervisor.

To help you find out how much you’ve learned, several exercises are included near the end of this book.



# 1 What is WHMIS?

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# Overview of WHMIS

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WHMIS provides you with health and safety information about hazardous products in your workplace.

Exposure to hazardous products can result in health problems such as irritation of the eyes, sensitization of the skin or lungs, heart ailments, kidney and lung damage, or cancer. Hazardous products can cause fires, explosions, or other accidents when improperly stored or handled.

Under WHMIS, you have the right to receive information about each hazardous product you use, handle, or store (for example, its identity, its hazards, and the safety precautions you need to take). You can use this information to help make sure you go home alive and well at the end of every workday.

## What does WHMIS stand for?

- **Workplace**
  - Deals only with products used in the workplace
- **Hazardous Materials**
  - Dangerous products that may cause fires, explosions, or health problems
- **Information System**
  - Provides information about hazardous products



## WHMIS gets an update

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WHMIS first came into effect in 1988 across Canada. It was updated in early 2015 to reflect a new set of rules called the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Developed by the United Nations, GHS does the following:

- Defines and classifies the hazards of chemical products
- Provides health and safety information on labels and safety data sheets, or SDSs (previously called material safety data sheets or MSDSs in the original WHMIS)

GHS is a worldwide system. Its goals are for the whole world to adopt and use:

- The same set of rules for classifying hazardous products
- The same format and content for labels and SDSs

Currently, many countries have different systems for classifying and labelling hazardous products. In fact, several different systems can exist even within the same country. This situation has been confusing for everyone.

GHS has not replaced WHMIS. Instead, GHS introduces some important changes to WHMIS. This will result in many benefits, such as the following:

- Providing improved, consistent hazard information
- Encouraging the safe handling and use of hazardous products
- Promoting better emergency response
- Making it easier and less expensive for companies to follow the rules
- Making trade easier
- Reducing the costs of regulation and enforcement

For the sake of clarity, the original WHMIS is now called WHMIS 1988. The updated version is called WHMIS 2015.

Key changes from WHMIS 1988 to WHMIS 2015 include the following:

- The term “hazardous product” replaces “controlled product.”
- Hazard classification criteria are more complete. This improves the ability to show the severity of hazards.
- New hazard classes are included (for example, “Aspiration hazard”).
- The language has been standardized (made more consistent).
- Supplier labels have a few new requirements (for example, the use of specific signal words, hazard statements, pictograms, and precautionary statements).
- SDSs follow a 16-section format, and the information in those sections has been standardized.

By late 2018, all suppliers and employers were required to comply with WHMIS 2015. WHMIS 1988 no longer applies.

## WHMIS legislation

WHMIS is based on a series of laws and regulations passed by the federal, provincial, and territorial governments.

**Federal legislation** (the *Hazardous Products Act* and *Hazardous Products Regulations*) deals with the importation and sale of hazardous products. Health Canada reviews claims for confidential business information (“trade secrets”).

**Provincial legislation** (for example, B.C.’s *Workers Compensation Act* and *Occupational Health and Safety Regulation*) covers the use of hazardous products in the workplace.

### WHMIS in brief

- A nationwide system put in place at the federal, provincial, and territorial levels in 1988; updated in 2015
- Recognizes the interests of all concerned
  - Labour (workers)
  - Owners (employers)
  - Industry (suppliers)
  - Government (regulators)
- Four key elements of WHMIS 2015
  - Classification
  - Labels
  - Safety data sheets (SDSs)
  - Worker education and training

## Key elements of WHMIS 2015

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- **Classification**

Hazardous products are classified by the types of hazards they present. WHMIS 2015 divides hazardous products into two **hazard groups**: physical hazards and health hazards. The two hazard groups are further divided into **hazard classes**. For more information, see page 12.

After a hazardous product has been classified, the following three WHMIS elements are used to communicate health and safety information.

- **WHMIS labels**

Labels on hazardous products alert you to the identities of products, their hazards, and the precautions you'll need to take. The information on hazards and precautions has been standardized.

- **Safety data sheets (SDSs)**

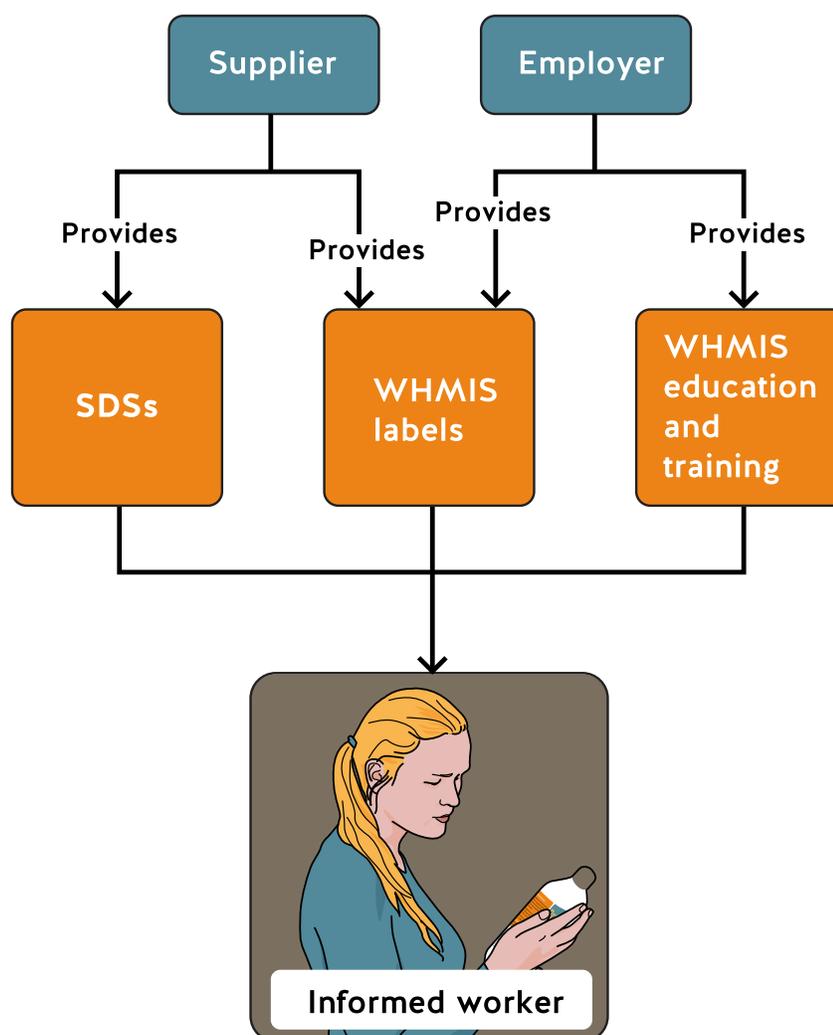
These documents provide detailed hazard and precautionary information. Under WHMIS 2015, SDSs use a 16-section format. The information required in each section has been standardized.

- **WHMIS education and training programs**

Your employer provides education and training for you so you can work safely with or near hazardous products. As a worker, you need to know:

- How WHMIS works
- The hazards of hazardous products in your workplace
- The safe work procedures you must follow

## How does WHMIS 2015 work?



## Key WHMIS participants and their responsibilities

As a **worker**, you are one of the key participants in WHMIS, along with **employers** and **suppliers**. (Suppliers are organizations or individuals who make, import, sell, or distribute hazardous products in Canada.)

All three groups — workers, employers, and suppliers — have specific responsibilities, as shown in the following table. The roles and responsibilities of each group remain unchanged in WHMIS 2015.

**Table 1. Group responsibilities**

<b>Workers</b>
<ul style="list-style-type: none"><li>• Take part in WHMIS training programs.</li><li>• Take necessary steps to protect yourself and your co-workers.</li><li>• Take part in identifying and controlling hazards.</li></ul>
<b>Employers</b>
<ul style="list-style-type: none"><li>• Educate and train workers on the hazards and safe use of hazardous products.</li><li>• Ensure that hazardous products are properly labelled.</li><li>• Prepare workplace labels and SDSs (as needed).</li><li>• Ensure that up-to-date SDSs are easily available to workers.</li><li>• Ensure effective control measures are in place to protect workers.</li></ul>
<b>Suppliers</b>
<ul style="list-style-type: none"><li>• Properly classify all hazardous products.</li><li>• Obtain or prepare up-to-date labels and SDSs.</li><li>• Provide these labels and SDSs to purchasers of hazardous products.</li></ul>



# 2 Classification of hazardous products

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# How hazardous products are classified

## What's new

- New classification criteria
- Two hazard groups (physical hazards, health hazards)
- 19 physical hazard classes
- 12 health hazard classes
- Hazard classes containing “categories” or “types” that reflect varying degrees of hazard

The way that hazardous products are classified has changed in WHMIS 2015. Hazardous products are now divided into two

### **hazard groups:**

- **Physical hazards**, based on the physical or chemical properties of the product (for example, products that are flammable, reactive, or corrosive to metals)
- **Health hazards**, based on the ability of the product to cause a health effect, such as:
  - Eye irritation
  - Respiratory sensitization (may cause allergy or asthma symptoms, or breathing difficulties)
  - Carcinogenicity (may cause cancer)

The two hazard groups are further divided into **hazard classes**. A brief listing of the hazard classes in each hazard group is shown below, followed by an overview of the classes. Hazard classes are a way of grouping together products that have similar properties.

## Physical hazards

The physical hazards group includes the following hazard classes:

- Combustible dusts
- Corrosive to metals
- Flammable aerosols
- Flammable gases
- Flammable liquids
- Flammable solids
- Gases under pressure
- Organic peroxides
- Oxidizing gases
- Oxidizing liquids
- Oxidizing solids
- Pyrophoric gases
- Pyrophoric liquids
- Pyrophoric solids
- Self-heating substances and mixtures
- Self-reactive substances and mixtures
- Simple asphyxiants
- Substances and mixtures which, in contact with water, emit flammable gases
- Physical hazards not otherwise classified

## Note

Explosives are classified as physical hazards under GHS. And the “exploding bomb” pictogram appears in WHMIS 2015 because some hazardous products can explode. But explosives are not included in WHMIS 2015 because other laws cover them.

## Note

GHS includes an environmental hazards group. This group was not adopted in WHMIS 2015 because it is beyond the scope of WHMIS (i.e., workplaces). However, you may see the environmental classes listed on labels and SDSs, and this is allowed under WHMIS 2015.

## Health hazards

The health hazards group includes the following hazard classes:

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

## Hazard classes

A hazardous product is a product that falls into one or more of the hazard classes described below. Suppliers classify these products and assign one or more pictograms. (Pictograms are symbols surrounded by borders; see page 20.)

Brief descriptions of each of the hazard classes are listed on the following pages.

**Table 2. Overview of physical hazard classes**

<b>Physical hazard class</b>	<b>General description</b>
<b>Flammable gases</b> <b>Flammable aerosols</b> <b>Flammable liquids</b> <b>Flammable solids</b>	These four classes cover products that have the ability to ignite (catch fire) easily. The main hazards are fire or explosion.
<b>Oxidizing gases</b> <b>Oxidizing liquids</b> <b>Oxidizing solids</b>	These three classes cover oxidizers, which may cause or intensify a fire or cause a fire or explosion.
<b>Gases under pressure</b>	<p>This class includes compressed gases, liquefied gases, dissolved gases, and refrigerated liquefied gases.</p> <p>Compressed gases, liquefied gases, and dissolved gases are hazardous because of the high pressure inside the cylinder or container. The cylinder or container may explode if heated.</p> <p>Refrigerated liquefied gases are very cold. They can cause severe cold (cryogenic) burns or injury.</p>
<b>Self-reactive substances and mixtures</b>	These products may react on their own to cause a fire or explosion, or may cause a fire or explosion if heated.
<b>Pyrophoric liquids</b> <b>Pyrophoric solids</b> <b>Pyrophoric gases</b>	These products can catch fire very quickly (spontaneously) if exposed to air.
<b>Self-heating substances and mixtures</b>	These products may catch fire if exposed to air. These products differ from pyrophoric liquids or solids in that they will ignite only after a longer period of time or when in large amounts.
<b>Substances and mixtures which, in contact with water, emit flammable gases</b>	As the class name suggests, these products react with water to release flammable gases. In some cases, the flammable gases may ignite very quickly (spontaneously).
<b>Organic peroxides</b>	These products are unstable, highly reactive, or explosive. They may cause a fire or explosion if heated.
<b>Corrosive to metals</b>	These products may be corrosive (chemically damaging or destructive) to metals.
<b>Combustible dusts</b>	This class is used to warn of products that are finely divided solid particles. If dispersed in air, the particles may catch fire or explode if ignited.

Physical hazard class	General description
Simple asphyxiants	These products are gases that may displace (take the place of) oxygen in air and cause rapid suffocation.
Physical hazards not otherwise classified	This class is meant to cover any physical hazards that are not covered in any other physical hazard class. These hazards involve chemical reactions that result in serious injuries or deaths when the reactions occur. If a product is classified in this class, the hazard statement on the label and SDS will describe the nature of the hazard.

**Table 3. Overview of health hazard classes**

Health hazard class	General description
Acute toxicity	<p>These products are fatal, toxic (poisonous), or harmful if they are inhaled (breathed in), if they come into contact with skin, or if they are ingested (swallowed).</p> <p>“Acute toxicity” refers to effects that occur following:</p> <ul style="list-style-type: none"> <li>• Skin contact or ingestion exposure to: <ul style="list-style-type: none"> <li>– A single dose, or</li> <li>– Multiple doses given within 24 hours</li> </ul> </li> <li>• An inhalation exposure of 4 hours</li> </ul> <p>Acute toxicity could result from exposure to the product itself. It could also result from a product that, upon contact with water, releases a gas that can cause acute toxicity.</p>
Skin corrosion /irritation	This class covers products that cause severe skin burns (corrosion) and products that cause skin irritation.
Serious eye damage /eye irritation	This class covers products that cause serious eye damage (corrosion) and products that cause eye irritation.
Respiratory or skin sensitization	A respiratory sensitizer is a product that may cause allergy or asthma symptoms or breathing difficulties if inhaled. A skin sensitizer is a product that may cause an allergic skin reaction.
Germ cell mutagenicity	This hazard class includes products that may cause or are suspected of causing genetic defects. Genetic defects are permanent changes (mutations) to body cells that can be passed on to future generations.
Carcinogenicity	This hazard class includes products that cause or are suspected of causing cancer.

Health hazard class	General description
<b>Reproductive toxicity</b>	This hazard class includes products that may damage or are suspected of damaging fertility (the ability to conceive children) or the embryo, fetus, or offspring. Note: There is also a category that includes products that may cause harm to breast-fed children.
<b>Specific target organ toxicity – single exposure</b>	This hazard class covers products that cause or may cause damage to organs (for example, the liver, kidneys, or blood) after a single exposure.
	This class also includes a category for products that cause respiratory irritation, drowsiness, or dizziness.
<b>Specific target organ toxicity – repeated exposure</b>	This hazard class covers products that cause or may cause damage to organs (for example, the liver, kidneys, or blood) following prolonged or repeated exposure.
<b>Aspiration hazard</b>	This hazard class is for products that may be fatal if they are swallowed and enter the airways.
<b>Biohazardous infectious materials</b>	These materials are micro-organisms (e.g., viruses, bacteria, or fungi), nucleic acids (e.g., DNA or RNA), or proteins that cause or are probable causes of infection, with or without toxicity, in humans or animals.
<b>Health hazards not otherwise classified</b>	This class covers products that are not included in any other health hazard class. These hazards occur following acute or repeated exposure. They have adverse effects on the health of a person exposed to them — including injury or death. If a product is classified in this class, the hazard statement will describe the nature of the hazard.

## Hazard categories

Each hazard class contains at least one category. The hazard categories are assigned a number (1, 2, etc.). Categories may also be called “types.” Types are assigned an alphabetical letter (A, B, etc.). In a few cases, subcategories are also specified. Subcategories are identified with a number and a letter (for example, 1A and 1B).

Some hazard classes have only one category (for example, “Corrosive to metals”). Others may have two categories (for example, “Carcinogenicity” [cancer]) or three categories (for example, “Oxidizing liquids”). There are a few hazard classes with five or more categories (for example, “Organic peroxides”).

The category tells you how hazardous the product is (that is, the severity of hazard).

- Category 1 is always the greatest level of hazard. (In other words, it is the most hazardous within that class.) If Category 1 is further divided, Category 1A within the same hazard class is a greater hazard than Category 1B.
- Category 2 within the same hazard class is more hazardous than Category 3, and so on.

There are a few exceptions to this rule. For example, for the “Gases under pressure” hazard class, the hazard categories are “Compressed gas,” “Liquefied gas,” “Refrigerated liquefied gas,” and “Dissolved gas.” These classes relate to the physical state of the gas when packaged. They do not describe the degree of hazard.

Hazard category	Level of hazard
1	More hazardous
2A	
2B	
3	
	Less hazardous

Also, the “Reproductive toxicity” hazard class has a separate category called “Effects on or via lactation.” “Effects on or via lactation” was not assigned a numbered category. Reproductive toxicity also has categories 1 and 2, which relate to effects on fertility and/or the embryo, fetus, or offspring. “Effects on or via lactation” is considered a different, but related, hazard within the “Reproductive toxicity” class.

### Products not covered by WHMIS 2015

The following types of products are not covered under WHMIS 2015:

- Explosives
- Cosmetics, devices, drugs, and foods
- Pest control products (pesticides)
- Consumer products (for example, cleaning products, adhesives, and lubricants)
- Wood or products made of wood
- Nuclear (radioactive) substances
- Hazardous waste
- Tobacco and tobacco products
- Manufactured articles

Many of these products are covered under other laws, and may not require a WHMIS label and SDS. But if these products are used in your workplace, your employer must still provide you with education and training on their health effects, safe use, and storage.

The rest of this book deals with hazardous products that require WHMIS supplier labels and SDSs (i.e., products covered by WHMIS 2015).

# 3 Pictograms

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# About pictograms

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## What's new

- Pictograms show the type of hazard at a glance.
- There are 10 pictograms.
- Most pictograms have a red, diamond-shaped border.
- Pictograms are assigned to specific hazard classes or categories.

Pictograms are graphic images that immediately show you what type of hazard a hazardous product presents. With a quick glance, you can see, for example, that a product is flammable, or if it might be a health hazard.

Most pictograms have a red, diamond-shaped border. Inside this border is a symbol that represents the hazard, such as fire, health hazard, corrosive, etc. Together, the symbol and the border are referred to as a pictogram. Pictograms are assigned to specific hazard classes or categories.

The following table shows the pictograms. The name of each pictogram is in bold type. The words in the brackets describe the hazard.

**Table 4. Introducing the pictograms**

 <p><b>Exploding bomb</b> (for explosion or reactivity hazards)</p>	 <p><b>Flame</b> (for fire hazards)</p>	 <p><b>Flame over circle</b> (for oxidizing hazards)</p>
 <p><b>Gas cylinder</b> (for gases under pressure)</p>	 <p><b>Corrosion</b> (for corrosive damage to metals, as well as skin, eyes)</p>	 <p><b>Skull and crossbones</b> (can cause death or toxicity with short exposure to small amounts)</p>
 <p><b>Health hazard</b> (may cause or suspected of causing serious health effects)</p>	 <p><b>Exclamation mark</b> (may cause less serious health effects or damage the ozone layer)</p>	 <p><b>Environment*</b> (may cause damage to the aquatic environment)</p>
 <p><b>Biohazardous infectious materials**</b> (for organisms or toxins that can cause diseases in people or animals)</p>		

\* There is an environmental hazards group in GHS. This group (and its classes) was not adopted in WHMIS 2015. However, you may see the environmental classes listed on labels and SDSs. Including information about environmental hazards is allowed by WHMIS 2015.

\*\* The “Biohazardous infectious materials” hazard class is included in WHMIS 1988 but is not part of GHS. This class has been kept in WHMIS 2015 to continue to protect workers.

## How pictograms compare to WHMIS 1988 hazard symbols



In general, pictograms (at right) are similar to WHMIS 1988 hazard symbols (at left). Many of the symbols inside the borders are almost the same. But there are some new symbols. (See the symbols in the “Health hazard,” “Exploding bomb,” “Environment,” and “Exclamation mark” pictograms, highlighted by dashed lines (above right). And two symbols have been retired. (See the “Materials causing other toxic effects” and “Dangerously reactive material” hazard symbols, highlighted by dotted lines above left). In all but one case (“Biohazardous infectious materials”), the pictogram borders are red and diamond-shaped. And most pictograms are assigned to multiple hazard classes and categories.

## For more information

For more information on the meaning of the categories, refer to Annex 1 (Classification and Labelling Summary Tables) of the United Nations publication *Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Fifth revised edition*.  
[unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs\\_rev05/English/05e\\_annex1.pdf](http://unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs_rev05/English/05e_annex1.pdf)

## How pictograms are used with WHMIS 2015 hazard classes and categories

The following table shows how the pictograms match up with the hazard classes and categories.

**Table 5. Pictograms matched to hazard classes and categories**

Pictogram	Hazard classes and categories
	<p>The <b>flame</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"> <li>• Flammable gases (Category 1)</li> <li>• Flammable aerosols (Categories 1 and 2)</li> <li>• Flammable liquids (Categories 1, 2, and 3)</li> <li>• Flammable solids (Categories 1 and 2)</li> <li>• Pyrophoric liquids (Category 1)</li> <li>• Pyrophoric solids (Category 1)</li> <li>• Pyrophoric gases (Category 1)</li> <li>• Self-heating substances and mixtures (Categories 1 and 2)</li> <li>• Substances and mixtures which, in contact with water, emit flammable gases (Categories 1, 2, and 3)</li> <li>• Self-reactive substances and mixtures (Types B*, C, D, E, and F)</li> <li>• Organic peroxides (Types B*, C, D, E, and F)</li> </ul>
	<p>The <b>flame over circle</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"> <li>• Oxidizing gases (Category 1)</li> <li>• Oxidizing liquids (Categories 1, 2, and 3)</li> <li>• Oxidizing solids (Categories 1, 2, and 3)</li> </ul>
	<p>The <b>gas cylinder</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"> <li>• Gases under pressure (Compressed gas, Liquefied gas, Refrigerated liquefied gas, and Dissolved gas)</li> </ul>

Pictogram	Hazard classes and categories
	<p>The <b>corrosion</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"> <li>• Corrosive to metals (Category 1)</li> <li>• Skin corrosion/irritation— Skin corrosion (Categories 1, 1A, 1B, and 1C)</li> <li>• Serious eye damage/eye irritation— Serious eye damage (Category 1)</li> </ul>
	<p>The <b>exploding bomb</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"> <li>• Self-reactive substances and mixtures (Types A and B*)</li> <li>• Organic peroxides (Types A and B*)</li> </ul>
	<p>The <b>skull and crossbones</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"> <li>• Acute toxicity: <ul style="list-style-type: none"> <li>- Oral (Categories 1, 2, and 3)</li> <li>- Dermal (Categories 1, 2, and 3)</li> <li>- Inhalation (Categories 1, 2, and 3)</li> </ul> </li> </ul>
	<p>The <b>health hazard</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"> <li>• Respiratory or skin sensitization— Respiratory sensitizer (Categories 1, 1A, and 1B)</li> <li>• Germ cell mutagenicity (Categories 1, 1A, 1B, and 2)</li> <li>• Carcinogenicity (Categories 1, 1A, 1B, and 2)</li> <li>• Reproductive toxicity (Categories 1, 1A, 1B, and 2)</li> <li>• Specific target organ toxicity— Single exposure (Categories 1 and 2)</li> <li>• Specific target organ toxicity— Repeated exposure (Categories 1 and 2)</li> <li>• Aspiration hazard (Category 1)</li> </ul>

## Note

The “Physical hazards not otherwise classified” and “Health hazards not otherwise classified” classes must have a GHS pictogram that matches the hazard identified.

Pictogram	Hazard classes and categories
	<p>The <b>exclamation mark</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"><li>• Acute toxicity — Oral, Dermal, Inhalation (Category 4)</li><li>• Skin corrosion/irritation — Skin irritation (Category 2)</li><li>• Serious eye damage/eye irritation — Eye irritation (Categories 2 and 2A)</li><li>• Respiratory or skin sensitization — Skin sensitizer (Categories 1, 1A, and 1B)</li><li>• Specific target organ toxicity — Single exposure (Category 3)</li></ul>
	<p>The <b>biohazardous infectious materials</b> pictogram is used for the following classes and categories:</p> <ul style="list-style-type: none"><li>• Biohazardous infectious materials (Category 1)</li></ul>

\* Both the flame and exploding bomb pictograms are used for “Self-reactive substances and mixtures” (Type B) and “Organic peroxides” (Type B).

## Hazard classes and categories without pictograms

Some hazardous products do not require pictograms. But the product label and Section 2 (Hazard identification) of the SDS still need to show the signal word, hazard statement(s), and other required parts of the label.

The following WHMIS 2015 hazard classes and categories do not need pictograms:

- Flammable gases — Category 2
- Flammable liquids — Category 4
- Self-reactive substances and mixtures — Type G
- Organic peroxides — Type G
- Combustible dusts — Category 1
- Simple asphyxiants — Category 1
- Serious eye damage/eye irritation — Eye irritation — Category 2B
- Reproductive toxicity — Effects on or via lactation

## Where to find pictograms

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Pictograms will be on the supplier labels of the hazardous products you work with. They will also be on the SDSs, as the symbol or the words that describe the symbol. For more information on labels, see Chapter 4, starting on page 28. For more information on SDSs, see Chapter 5, starting on page 38.

# 4 Labels

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# About labels

Under WHMIS 2015, hazardous products used, handled, or stored in the workplace must be labelled. Labels are your first alert about the major hazards of these products. Labels also outline the basic precautions or safety steps you should take.

## Overview of label types

There are two main types of WHMIS labels: supplier labels and workplace labels. Other types of identification may be used where appropriate. Examples include warning signs, colour codes, and placards.

### WHMIS labels

- All WHMIS hazardous products must be labelled.
- There are two main types of WHMIS labels:
  - Supplier labels
  - Workplace labels
- Other means of identification (for example, warning signs, colour codes, or placards).
- Labels alert you to hazards and safe handling instructions.

### What's new

- Supplier labels now require pictograms, signal words, and standardized hazard statements and precautionary statements.
- A pictogram, signal word, and hazard statement are now assigned to most hazard classes and categories.

## Supplier labels

A **supplier label** is provided for each hazardous product by the supplier. Supplier labels will appear on all hazardous products received at a workplace in Canada.

Most supplier labels show six types of information. In rare cases, supplier labels show seven types of information.

The written information must be shown in both English and French. Supplier labels may be bilingual (as one label) or available as two labels (one in English, and one in French).

### Information required

A WHMIS 2015 supplier label must include the following information:

- (1) **Product identifier** — the brand name, chemical name, common name, generic name, or trade name of the hazardous product.
- (2) **Initial supplier identifier** — the name, address, and telephone number of the Canadian manufacturer or importer.

- (3) **Pictogram(s)** — hazard symbol usually contained within a red, diamond-shaped border.
- (4) **Signal word** — one of just two words used to alert you to a potential hazard and to state the severity of the hazard. (“Danger” is used for high-risk hazards, while “Warning” is used for less severe hazards.)
- (5) **Hazard statement(s)** — a standardized phrase or phrases that describe the type of hazard(s) posed by the hazardous product, as well as its severity. (For example, “Extremely flammable gas,” “Fatal if inhaled,” and “May cause cancer.”)
- (6) **Precautionary statement(s)** — a standardized phrase or phrases that describe how to reduce or prevent harmful effects resulting from the following:
  - Exposure to a hazardous product, or
  - Improper handling or storage of a hazardous product(Examples include “Keep container tightly closed,” “Wear eye protection,” and “If exposed or concerned: Get medical attention.”)

In rare cases, supplier labels may also include **supplemental label information**. This information gives you more details about the following:

- Precautionary actions
- Hazards not yet included in GHS
- Physical state (gas, liquid, solid, etc.)
- Route of exposure (by inhaling, by swallowing, through skin, etc.)

Supplemental label information is only included on a supplier label in the following cases:

- A toxic mixture has an ingredient with unknown acute toxicity, or
- A product reacts with water to produce an acutely toxic gas

### **Format**

There is no set format for a supplier label, but the pictogram(s), signal word, and hazard statement(s) must be grouped together.

A supplier label must be as follows:

- Clearly and prominently displayed on the container
- Easy to read (i.e., you can see it easily without using any item except corrective glasses)
- In contrast with other information on the product or container
- Bilingual (as one label or two)

If a supplier label becomes damaged, unreadable, or is accidentally removed, your employer must replace the label with either a supplier label or a workplace label.

## Sample supplier label

An example of a bilingual supplier label follows.

	<b>Product W-1 / Produit W-1</b>	Product identifier
Pictograms		
Signal word	<b>Danger</b>	<b>Danger</b>
Hazard statements	Fatal if swallowed. Causes skin irritation.	Mortel en cas d'ingestion. Provoque une irritation cutanée.
Precautionary statements	<b>Precautions:</b> 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.	<b>Conseils :</b> 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. 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.
Initial supplier identifier	ABC Chemical Co., 123 rue Anywhere St., Mytown, ON NON ONO (123) 456-7890	

## Comparing supplier labels: WHMIS 1988 vs. WHMIS 2015

Two sample supplier labels are shown on the next page so you can compare them: WHMIS 1988 (top) and WHMIS 2015 (bottom).

## Comparing supplier labels

**WHMIS 1988**

**ACETONE ACÉTONE**

SEE MATERIAL SAFETY DATA SHEET FOR THIS PRODUCT  
VOIR LA FICHE SIGNALÉTIQUE POUR CE PRODUIT

<p><b>HAZARD! EXTREMELY FLAMMABLE. IRRITATES EYES.</b></p> <p><b>PRECAUTIONS:</b> Keep away from heat, sparks, and flames. Ground containers when pouring. Avoid breathing vapours or mists. Avoid eye contact. Avoid prolonged or repeated contact with skin. Wear splash-proof safety goggles or faceshield and butyl rubber gloves. If acetone is present in concentrations greater than 250 ppm, wear a NIOSH-approved respirator with an organic vapour cartridge. Use with adequate ventilation, especially in enclosed areas. Store in a cool, well-ventilated area, away from incompatibles.</p> <p><b>FIRST AID:</b> In case of contact with eyes, immediately flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally. Get medical attention immediately. In case of contact with skin, immediately wash skin with lots of soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation persists after washing. Wash clothing before reuse. If inhaled, remove subject to fresh air. Give artificial respiration if not breathing. Get medical attention immediately. If swallowed, contact the Poison Control Centre. Get medical attention immediately. Do not give anything by mouth to an unconscious or convulsing person.</p> <p><b>ATTENTION! THIS CONTAINER IS HAZARDOUS WHEN EMPTY. ALL LABELLED HAZARD PRECAUTIONS MUST BE OBSERVED.</b></p>	<p><b>HAZARD! EXTRÊMEMENT INFLAMMABLE. IRRITE LES YEUX.</b></p> <p><b>MESURES DE PRÉVENTION:</b> Tenir à l'écart de la chaleur, des étincelles et des flammes. Relier les récipients à la terre lors du transvasement. Éviter de respirer les vapeurs ou les brumes. Éviter le contact avec les yeux. Éviter le contact prolongé ou répété avec la peau. Porter des lunettes contre les éclaboussures de produit chimique ou une visière de protection, et des gants en caoutchouc butyle. Si l'acétone est présent en concentration de plus de 250 pour un million, porter un respirateur muni d'une cartouche à vapeur organique approuvé par NIOSH. Utiliser avec suffisamment de ventilation surtout dans les endroits clos. Entreposer dans un endroit frais, bien aéré, à l'écart des produits incompatibles.</p> <p><b>PREMIERS SOINS:</b> En cas de contact avec les yeux, rincer immédiatement et copieusement avec de l'eau courante pendant 15 minutes en soulevant les paupières inférieures et supérieures de temps en temps. Obtenir des soins médicaux immédiatement. En cas de contact avec la peau, laver immédiatement la région affectée avec beaucoup d'eau et de savon. Retirer les vêtements et les chaussures contaminées. Si l'irritation persiste après le lavage, obtenir des soins médicaux. Laver les vêtements avant de les réutiliser. En cas d'inhalation, transporter la victime à l'air frais. En cas d'arrêt respiratoire, pratiquer la respiration artificielle. Obtenir des soins médicaux immédiatement. En cas d'ingestion, contacter le Centre de Contrôle des Empoisonnements. Obtenir des soins médicaux immédiatement. Ne rien faire avaler à une victime inconsciente ou en convulsions.</p> <p><b>ATTENTION! CE RÉCIPENT EST DANGEREUX LORSQU'IL EST VIDE. CHAQUE INDICATION DE DANGER SUR LES ÉTIQUETTES DOIVENT ÊTRE OBSERVÉES.</b></p>
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BIG Chemical Company / 123 Nitro Avenue, Vapour Town, BC 123-4567

**WHMIS 1988**

Product identifier

Reference to MSDS

Risk phrases

Precautionary statements

First aid measures

Hazard symbols

French version

WHMIS hatched border

Supplier identification

**WHMIS 2015**

**ACETONE / ACÉTONE**

<p><b>Danger</b></p> <p><b>Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.</b></p> <p><b>Precautions:</b> Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed and store in a well-ventilated place. Keep cool. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use only outdoors or in a well-ventilated area. Wear eye protection, face protection, protective clothing, and protective gloves. Avoid breathing mist, spray, vapours. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</p>	<p><b>Danger</b></p> <p><b>Liquide et vapeurs très inflammables. Provoque une sévère irritation des yeux. Peut provoquer somnolence ou des vertiges.</b></p> <p><b>Conseils:</b> Tenir loin de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et d'autres sources d'inflammation. Défense de fumer. Maintenir le récipient fermé de manière étanche. Stocker dans un endroit bien ventilé. Tenir au frais. Prendre des mesures contre les décharges électrostatiques. Mise à la terre et liaison équipotentielle du récipient et du matériel de réception. Utiliser seulement en plein air ou dans un endroit bien ventilé. Porter des gants de protection et des vêtements de protection. Porter un équipement de protection des yeux et du visage. Éviter de respirer les brouillards, les aérosols, ou les vapeurs. EN CAS D'INHALATION: Transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Retirer immédiatement tous les vêtements contaminés. Rincer la peau avec de l'eau ou doucher.</p>
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Rappter Chemicals Ltd., 1234 Jurassic Court, Moose Jaw, SK, S6H 3J8, (123) 456-7890

Product identifier

Signal word

Hazard statements

Precautionary statements

Pictograms

Initial supplier identifier

## Workplace labels

A workplace label gives you the following information about a hazardous product:

- The product identifier (name)
- Safe handling information
- A reference to the SDS

Workplace labels may include pictograms or other information from supplier labels.

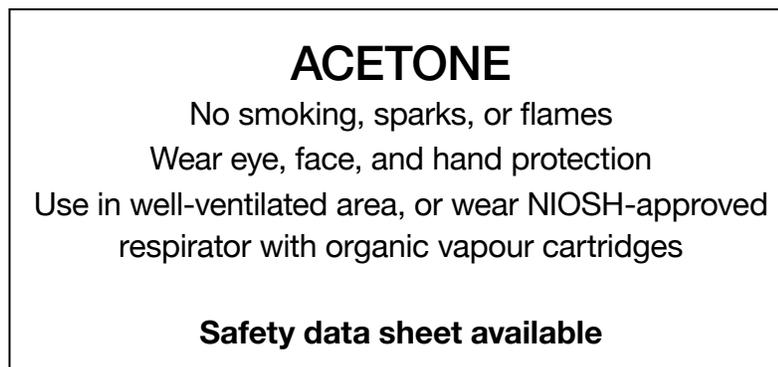
### Format

The format for workplace labels is flexible. For example:

- The information can be written directly onto the container using a permanent marker.
- The wording and language(s) used can be chosen to fit your workplace.

### Sample workplace label

An example of a workplace label is shown below:



### When workplace labels are needed

A **workplace label** is needed in the following cases:

- A hazardous product is produced (made) and used in your workplace
- A hazardous product is decanted (transferred or poured) into another container
- A supplier label becomes lost or unreadable

In general, your employer is responsible for providing workplace labels. Your employer must also make sure that all labels at your workplace are readable, and that they are replaced if damaged.

## Note

Your employer may have rules about labelling that go beyond what's required under WHMIS.

### **Exceptions for decanted products**

Workplace labels are not needed in two specific cases.

The first case is when a hazardous product is decanted from a container that has a supplier or workplace label on it into another container and:

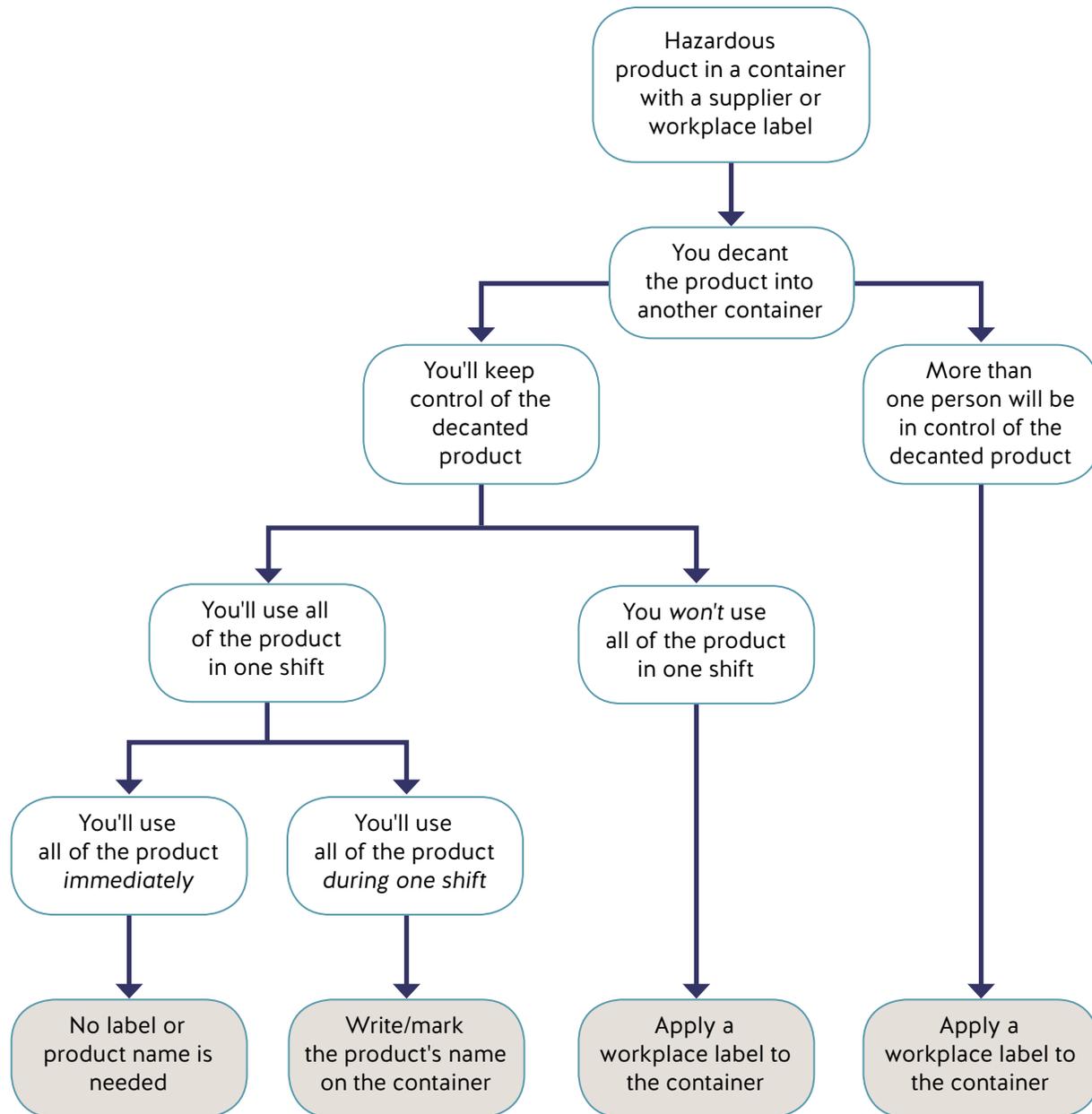
- The decanted product stays under the control of the person who decanted it, and
- The decanted product's name (product identifier) is marked on the container, and
- All of the decanted product will be used during that same shift

For example, if you pour a hazardous product into a container (such as a jar, bottle, or bucket), you write the product's name on the container, you'll be the only person who will use the decanted product, and you'll use all of it during that same shift, then you don't need to apply a workplace label.

The second case is when you'll use the decanted product immediately **and** completely. In this situation, you don't need to apply a workplace label or write the product's name on the container.

The following flow chart walks you through the decision process.

## Decision process for labelling decanted products



## Other means of identification

In some cases, a WHMIS label can also be a mark, sign, stamp, sticker, seal, ticket, tag, or wrapper. It can be attached, imprinted, stencilled, or embossed on the hazardous product or its container. If these other systems are used in your workplace, your employer must make sure you are trained to identify them.

Examples of cases where these other systems may be used, and some exceptions are allowed, include:

- **Bulk shipments** — There is a labelling exemption for products sold without packaging.
- **Small capacity containers, 100 mL or less** — No precautionary or hazard statements are needed on the label.
- **Small capacity containers, 3 mL or less** — The label must be durable and readable, but can be removable for ease of use.
- **Piping systems and vessels** — Labels, placards, colour coding, etc., are allowed.
- **Laboratory samples** — Modified supplier labels are permitted.



Hazardous products in pipes, identified by colours and letters

## What you should do when using a hazardous product

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As a worker using a hazardous product, you should do the following:

- Always check to see if there is a label on the product before you use it.
- Read, understand, and follow the instructions on the label and SDS. And follow any education, instructions, and training your employer provides.
- Ask your supervisor if you are not sure about how to use or store the product.
- Ask for a new label when you can't see or read the old one properly.
- Do not use a product that is not labelled or if the label is unreadable. Ask your supervisor for help (for example, to replace the label).

# 5 Safety data sheets

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# About safety data sheets

## What's new

- SDS replaces MSDS.
- Standard 16-section format.
- New information requirements (e.g., WHMIS classification, hazard statements, and other label elements in Section 2).
- SDSs must be accurate at the time of sale or import, for each sale or import.
- SDSs need to be updated when significant new information becomes available.

Safety data sheets (SDSs) are documents that provide information about hazardous products and advice about safety precautions.

An SDS tells you:

- The hazards of a product
- How to use the product safely
- What to expect if you don't follow the advice
- How to recognize symptoms of exposure
- What to do if emergencies occur

SDSs provide more information about products than labels do. SDSs are important resources that help you learn more about the products you use. Use this information to find out the following:

- The hazards of the products you use
- How to protect yourself from those hazards
- Safe handling and emergency procedures

The suppliers of products usually obtain or prepare the SDSs. In some cases, an employer may need to prepare an SDS (for example, when the product is produced and used only in that workplace).

In general, your employer needs to make sure that no SDS is more than three years old. However, there are some exceptions to this rule. For example, if an up-to-date SDS is unavailable, your employer may need to get written confirmation from the supplier that the SDS hasn't changed.

Under WHMIS 2015, every hazardous product that is used, handled, or stored in a workplace must have an SDS.

## Uses of an SDS

- A source of detailed information on the hazards of a hazardous product
- An important resource for developing safe work procedures and control measures
- A key part of worker education and training

### Rules for completing an SDS

- 16 sections.
- Specific hazardous ingredients must be disclosed. (No “trade secrets” allowed unless a claim has been registered.)
- Any abbreviations used must be defined.
- Information must be specific.
- All required sections must be completed.
- No contradictory information.
- An SDS must be updated within 90 days of significant new information becoming available.

## Format and information required

WHMIS 2015 requires a standard 16-section SDS. All information on the SDS must appear in the order shown below.

The table below gives an overview of the information provided in each section.

**Table 6. Overview of information required in each section of an SDS**

SDS section and heading	Information requirements (partial list)
1 Identification	<ul style="list-style-type: none"> <li>• Product identifier</li> <li>• Recommended use and restrictions on use</li> <li>• Supplier contact information</li> <li>• Emergency phone number</li> </ul>
2 Hazard identification	<ul style="list-style-type: none"> <li>• Classification (hazard class and category)</li> <li>• Label elements (including pictogram, signal word, hazard statements, and precautionary statements)</li> <li>• Other hazards (for example, heat-related hazards)</li> </ul>
3 Composition/ Information on ingredients	<p>For a hazardous product that is a substance:</p> <ul style="list-style-type: none"> <li>• The chemical name and synonyms</li> <li>• Chemical Abstracts Service Number (CAS No.)</li> <li>• The chemical name of impurities, stabilizing solvents, and stabilizing additives, when required</li> </ul> <p>For a hazardous product that is a mixture: the chemical names, synonyms, CAS numbers, and concentrations for ingredients that present health hazards</p> <p><b>Note:</b> Confidential business information (CBI) rules may apply</p>
4 First-aid measures	<p>First-aid procedures by route of exposure (inhalation, skin contact, etc.), as well as the most important symptoms/effects</p>
5 Fire-fighting measures	<ul style="list-style-type: none"> <li>• Suitable and unsuitable extinguishing media (types of fire extinguishers, such as water, chemical foam, carbon dioxide, etc.)</li> <li>• Specific hazards</li> <li>• Special equipment and precautions for firefighters</li> </ul>
6 Accidental release measures	<ul style="list-style-type: none"> <li>• Protective equipment</li> <li>• Emergency procedures</li> <li>• Methods and materials for containment and cleanup</li> </ul>
7 Handling and storage	<p>Precautions for safe handling, conditions for storage, including any incompatibilities</p>

SDS section and heading		Information requirements (partial list)
8	Exposure controls/ Personal protection	Exposure limits, engineering controls, and personal protective equipment
9	Physical and chemical properties	<ul style="list-style-type: none"> <li>• Appearance</li> <li>• Odour</li> <li>• Odour threshold</li> <li>• pH</li> <li>• Melting/freezing point</li> <li>• Boiling point and range</li> <li>• Flash point</li> <li>• Upper and lower flammable or explosive limits</li> </ul>
10	Stability and reactivity	<ul style="list-style-type: none"> <li>• Reactivity</li> <li>• Chemical stability</li> <li>• Possible hazardous reactions</li> <li>• Conditions to avoid</li> <li>• Incompatible materials</li> <li>• Hazardous decomposition products</li> </ul>
11	Toxicological information	<p>Description of various toxic effects by route of entry, including:</p> <ul style="list-style-type: none"> <li>• Effects of acute (short-term) or chronic (long-term) exposure</li> <li>• Carcinogenicity</li> <li>• Reproductive effects</li> <li>• Respiratory sensitization</li> </ul>
12	Ecological information*	<ul style="list-style-type: none"> <li>• Aquatic and terrestrial toxicity (if available)</li> <li>• Persistence and degradability</li> <li>• Bioaccumulative potential</li> <li>• Mobility in soil</li> </ul>
13	Disposal considerations*	Safe handling and methods of disposal, including contaminated packaging
14	Transport information*	UN number and proper shipping name, hazard classes, packing group
15	Regulatory information*	Safety, health, and environmental regulations specific to the product
16	Other information	Other information, including date of the latest revision of the SDS

\* Sections 12 to 15 require the headings to be present. The supplier has the option to not provide information in these sections.

## Why SDSs can be difficult to understand

SDSs are complex and technical. They are written for many different audiences, including health and safety professionals, employers, supervisors, nurses, doctors, emergency responders, and workers like you.

To make sure that SDS users can quickly find the information they need, information directed toward different users will be listed in specific sections. Having a set format will make it easier to find the information you need on every SDS.

However, you may find some of the information on an SDS difficult to understand. Your employer needs to be able to explain the content of each SDS to you so that you can work safely with or near hazardous products.

## When you should use SDSs

Always be familiar with the hazards of a product **before** you start using it.

- Look at an SDS and match the name of the product on the container to the one on the SDS (Section 1).
- Know the hazards (Section 2).
- Understand safe handling and storage instructions (Section 7).
- Understand what to do in an emergency (sections 4, 5, and 6).

You can think of the SDS as having four main purposes. It provides information on the following:

- **Identification** — for the product and supplier
- **Hazards** — physical (fire and reactivity) and health
- **Prevention** — steps you can take to work safely and reduce or prevent exposure
- **Response** — what to do in various emergencies (for example, first aid, a fire, or a spill)

A few things to know:

- Make sure you use the product in the way the manufacturer intended. Otherwise, the advice provided on the SDS and label may not apply, or the safety steps listed may not work. Section 1 of the SDS should describe the typical use of the product and may state restrictions. If the way you use the product does not match the SDS, ask your supervisor or a safety professional for advice.
- Section 2 will sum up the hazards of the product, precautions to take, and what to do in an emergency. But the SDS may not be

specific about the safe work procedures needed for your workplace. (For example, the SDS may not specify what type of respirator must be used, just that a respirator is needed.) Ask your supervisor for more information. These decisions may require the help of a safety professional or someone with chemical safety knowledge.

## MSDS headings vs. SDS headings

The table below compares the section headings of a sample MSDS against the headings of an SDS. Note that there was no set MSDS format, but the SDS format is standardized. The MSDS headings shown below are taken from a form on [worksafebc.com](http://worksafebc.com).

**Table 7. MSDS headings vs. SDS headings**

9 section MSDS headings	16 section WHMIS 2015 SDS headings
1. Product information	1. Identification
2. Hazardous ingredients	2. Hazard identification
3. Physical data	3. Composition/Information on ingredients
4. Fire and explosion data	4. First-aid measures
5. Reactivity data	5. Fire-fighting measures
6. Toxicological properties	6. Accidental release measures
7. Preventive measures	7. Handling and storage
8. First aid measures	8. Exposure controls/Personal protection
9. Preparation information	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

\* In sections 12 to 15, the headings need to be listed, but suppliers don't have to provide information.

## Looking beyond an SDS for more information

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An SDS may not contain all the information you need. A lot of health hazard information, for example, is written in general terms. And SDSs are often written for many different uses of products. So the handling and safety precautions may not be specific to your workplace.

The following people or organizations should be able to help you find more information if needed:

- Your health and safety committee or representative
- A health and safety specialist
- An occupational health nurse
- Your family doctor
- Your supervisor
- Your employer
- Suppliers

## Confidential business information

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Confidential business information (CBI) refers to specific product information that suppliers are permitted to withhold from an SDS or label for a period of three years. Under WHMIS, a supplier can make a request to Health Canada to protect certain information that gives a company a business advantage over competitors. Crucial information such as health hazards may never be withheld.

Here's a quick summary of how CBI works:

- Suppliers may apply for confidential business information protection to Health Canada.
- An approved claim is valid for three years.
- Protected trade information is only released to health or safety professionals in case of an emergency.
- Health hazard information must be shown on the SDS.

# 6 Putting WHMIS into action

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# WHMIS program

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## What is an exposure control plan?

An exposure control plan (ECP) sets out a detailed approach to protecting workers from harmful exposure to certain substances (for example, carcinogens) and, under some conditions, for all other hazardous products.

If your workplace uses hazardous products, a WHMIS program must be in place. To put in place a WHMIS program, your employer needs to make use of supplier labels and SDSs.

Your employer also needs to use his or her own knowledge of the hazards of products and their use in the workplace. This knowledge should take into account factors such as work processes, control measures, and work location. For example, the hazards of spray painting with a hazardous product inside a confined space are far different from the hazards of hand brushing the same product outdoors.

Based on all of this information, your employer must develop exposure control plans when required and written safe work procedures that ensure your health and safety. Your employer must also educate you about the hazards and train you in safe work procedures.

Your health and safety committee or representative must be involved in the development, implementation, and review of the WHMIS program.

## Employer responsibilities for a WHMIS program

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- Assign responsibility.
- Establish an inventory of hazardous products.
- Meet SDS and label requirements.
- Determine the hazards of hazardous products.
- Establish workplace controls.
- Establish emergency procedures.
- Provide worker education and training.
- Evaluate the WHMIS program.

# Education and training

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Your employer is responsible for educating you about WHMIS and training you in safe work procedures.

## Who should receive education and training?

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As a worker, you must be educated and trained so you understand the hazards and know how to work safely with hazardous products.

If you work with a hazardous product, or may be exposed to a hazardous product as part of your work activities, you must learn about the hazard information for that product. (For example, a receptionist at a medical clinic may be exposed to mercury if it is spilled.) The hazard information should include the information received from the supplier. It should also include any other information that your employer is aware of about the use, storage, and handling of each product.

For instance, you will receive this education and training if one or more of the following applies:

- You may be exposed to a hazardous product due to your work activities (including normal use, maintenance activities, or emergencies).
- You use, store, handle, or dispose of a hazardous product.
- You supervise or manage other workers who may be exposed, or use, store, handle, or dispose of a hazardous product.
- You are involved in emergency response.

## Who should provide the education and training?

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Under WHMIS, your employer is responsible for education and training. WHMIS outlines those minimum requirements. Your employer may provide the education and training, or it may be provided by a qualified person or agency chosen by your employer. Regardless of who delivers the education and training, employers remain legally responsible to ensure the protection of workers.

## Topics to be covered

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Examples of topics that should be covered during education and training include the following:

- The information on both supplier labels and workplace labels, and what that information means
- The information on the safety data sheet (SDS) and what that information means
- The procedures required for safe use, handling, and disposal of a hazardous product
- Any other information required when the product is in a pipe, piping system, vessel, tank car, etc.
- Procedures to follow if the hazardous product may be present in the air and you may be exposed
- All procedures that you must follow in an emergency that involves the hazardous product

## Your responsibilities

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As a worker, you must participate in the education and training sessions. You must also follow your employer's safe work procedures.

If you have been successfully educated and trained in WHMIS, you must be able to answer these four questions for every hazardous product you work with:

- What are the hazards of the product?
- How do I protect myself from those hazards?
- What do I do in case of an emergency?
- Where can I get more information?

# 7 Exercises

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# Pictogram matching exercise

Match the pictograms to the hazards.

Pictogram	Hazard
1. 	A. Organisms or toxins that can cause diseases in people or animals
2. 	B. May cause or suspected of causing serious health effects
3. 	C. Oxidizing hazard
4. 	D. Gases under pressure
5. 	E. Fire hazard
6. 	F. Explosion or reactivity hazard
7. 	G. May cause less serious health effects or damage the ozone layer
8. 	H. Can cause death or toxicity with short exposure to small amounts
9. 	I. Corrosive damage to metals, as well as skin, eyes
10. 	J. May cause damage to the aquatic environment

# Label exercise

1. What is the purpose of a WHMIS label?

\_\_\_\_\_

2. What are the two main types of WHMIS labels?

\_\_\_\_\_

3. Identify the types of information on a WHMIS 2015 supplier label from your workplace. (Most supplier labels will show six types of information, but some may show seven.)

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

4. Identify the three types of information on this workplace label.

**Solv-easy**

Keep away from sparks, heat, and open flame.

Use local exhaust ventilation or NIOSH-approved organic vapour respirator.

Wear neoprene gloves and chemical splash goggles.

See the SDS.

5. Name two situations where other means of identification can be used.

- \_\_\_\_\_
- \_\_\_\_\_

# SDS exercise

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1. Where are the SDSs kept in your workplace?

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2. With some exceptions, employers need to make sure that no SDS is more than \_\_\_\_ years old.

3. How many sections are there on an SDS?

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4. What are five key things that an SDS tells you?

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5. Using an SDS for a product in your workplace, review the hazards of the product, the safe handling procedures, personal protective equipment, and storage and shipping requirements for the product. Write your key findings in the space below.

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# 8 Answer keys

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# Pictogram matching exercise answers

Match the pictograms to the hazards.

Pictogram	Hazard	Answer
1. 	A. Organisms or toxins that can cause diseases in people or animals	1-G
2. 	B. May cause or suspected of causing serious health effects	2-H
3. 	C. Oxidizing hazard	3-F
4. 	D. Gases under pressure	4-B
5. 	E. Fire hazard	5-C
6. 	F. Explosion or reactivity hazard	6-A
7. 	G. May cause less serious health effects or damage the ozone layer	7-D
8. 	H. Can cause death or toxicity with short exposure to small amounts	8-E
9. 	I. Corrosive damage to metals, as well as skin, eyes	9-J
10. 	J. May cause damage to the aquatic environment	10-I

# Label exercise answers

1. What is the purpose of a WHMIS label?

Answer: Labels are the first alert to users about the major hazards of hazardous products. They also outline the basic precautions or safety steps that should be taken.

2. What are the two main types of WHMIS labels?

Answer: Supplier labels and workplace labels

3. Identify the types of information on a WHMIS 2015 supplier label from your workplace. (Most supplier labels will show six types of information, but some may show seven.)

Answers:

- Product identifier
- Initial supplier identifier
- Pictogram(s)
- Signal word
- Hazard statement(s)
- Precautionary statement(s)
- Supplemental label information (in rare cases)

4. Identify the three types of information on this workplace label.

## Solv-easy

Keep away from sparks, heat, and open flame.

Use local exhaust ventilation or NIOSH-approved organic vapour respirator.

Wear neoprene gloves and chemical splash goggles.

See the SDS.

Answers: Product identifier, safe handling/precautionary information, and reference to safety data sheet

5. Name two situations where other means of identification can be used.

Answer: Two of the following:

- Bulk shipments
- Small capacity containers, 100 mL or less
- Small capacity containers, 3 mL or less
- Piping systems and vessels
- Laboratory samples

# SDS exercise answers

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1. Where are the SDSs kept in your workplace?

Answer: Identify location. (Note that the location must provide easy access to SDSs at all times, whether in hard copy or electronic format.)

2. With some exceptions, employers need to make sure that no SDS is more than \_\_\_\_ years old.

Answer: Three

3. How many sections are there on an SDS?

Answer: 16 (Note that suppliers have the option not to provide information for sections 12 to 15.)

4. What are five key things that an SDS tells you?

Answer:

- The hazards of a product
- How to use the product safely
- What to expect if you don't follow the advice
- How to recognize symptoms of exposure
- What to do if emergencies occur

5. Using an SDS for a product in your workplace, review the hazards of the product, the safe handling procedures, personal protective equipment, and storage and shipping requirements for the product. Write your key findings in the space below.

Answer: Review and discuss your findings.

# 9 Appendix

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# Information items on a supplier label

If you want to check whether a supplier label shows all the components required, use the following template. A similar template for checking SDSs is available in the WorkSafeBC publication *WHMIS 2015: At Work*, which can be found at [worksafebc.com](http://worksafebc.com).

Information item	Description
1 Product identifier	The brand name, chemical name, common name, generic name, or trade name of the hazardous product.
2 Initial supplier identifier	The name, address, and telephone number of either the Canadian manufacturer or the Canadian importer.
3 Pictogram(s)	A hazard symbol usually contained within a red, diamond-shaped border.
4 Signal word	One of just two words used to alert you to a potential hazard and to state the severity of the hazard. “Danger” is used for high-risk hazards, while “Warning” is used for less severe hazards.
5 Hazard statement(s)	A standardized phrase or phrases that describe the type of hazard(s) posed by a hazardous product. Examples include “Extremely flammable gas,” “Fatal if inhaled,” and “May cause cancer.”
6 Precautionary statement(s)	A standardized phrase or phrases that describe how to reduce or prevent harmful effects resulting from the following: <ul style="list-style-type: none"><li>• Exposure to a hazardous product, or</li><li>• Improper handling or storage of a hazardous product</li></ul> Examples include “Keep container tightly closed,” “Wear eye protection,” and “If exposed or concerned: Get medical attention.”

In rare cases, labels may include supplemental label information about the following:

- Precautionary actions
- Hazards not yet included in GHS
- Physical state (gas, liquid, solid, etc.)
- Route of exposure (by inhaling, by swallowing, through skin, etc.)

Supplemental label information is only included on a supplier label in the following cases:

- A toxic mixture has an ingredient with unknown acute toxicity, or
- A product reacts with water to produce an acutely toxic gas



