

## **Workplace Hazardous Materials Information System WHMIS WHMIS 1998 & WHMIS 2015**

### **REFERENCE MATERIAL**

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The Workplace Hazardous Materials Information System (WHMIS) is a Canada-wide system designed to give employers and workers information about hazardous materials used in the workplace. Under WHMIS, there are three ways in which information on hazardous materials is to be provided:

1. labels on the containers of hazardous materials;
2. material safety data sheets to supplement the label with detailed hazard and precautionary information; and
3. worker education programs.

The supplier of the hazardous material provides the labels and material safety data sheets to the employer. The employer passes the information on to the worker and provides education programs.

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

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

To allow time for suppliers, employers, and workers to adjust to WHMIS 2015, a three –year transition period is in place. By June 1, 2018, all suppliers are expected to comply with the updated system. By December 1, 2018, all employers are expected to comply with the updated system.

During this transition period, WHMIS 1988 and / or WHMIS 2015 may be used in the workplace.

The educational materials contained over the next few pages are for your reference during this period. The information is not all inclusive, more information can be found at

[www.labour.gov.on.ca/english/hs/pubs/whmis/](http://www.labour.gov.on.ca/english/hs/pubs/whmis/)

[www.ccohs.ca/products/publications/whmis\\_ghs/](http://www.ccohs.ca/products/publications/whmis_ghs/)

## WHMIS 2015 - HAZARD GROUP

WHMIS 2015 applies to two major groups of hazards: physical, and health. Each hazard group includes hazard classes that have specific hazardous properties.

- **Physical hazards group:** based on the physical or chemical properties of the product – such as flammability, reactivity, or corrosivity to metals.
- **Health hazards group:** 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 if inhaled), or carcinogenicity (may cause cancer).

GHS also defines an Environmental hazards group. This group (and its classes) was not adopted in WHMIS 2015. However, you may see the environmental classes listed on labels and Safety Data Sheets (SDSs). Including information about environmental hazards

## WHMIS 2015

WHMIS 2015 has many hazard classes. WHMIS 2015 incorporates physical and health hazard classes from the GHS and retains the Biohazardous Infectious Materials hazard class. WHMIS 2015 also introduces hazard classes for Pyrophoric Gases, Simple Asphyxiants, and Combustible Dusts, which are not covered in the GHS.

## WHMIS 2015 - HAZARD CLASSES

Hazard classes are a way of grouping together products that have similar properties. Most of the hazard classes are common to GHS and will be used worldwide by all countries that have adopted GHS. Some hazard classes are specific to WHMIS 2015.

### HAZARD CLASSES- Physical Hazards

- 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 and 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

### **HAZARD CLASSES - Health Hazards**

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

Note: GHS also defines an Explosive class and the Environmental Hazards group (not mandatory). The WHMIS regulations do not currently include the Explosives hazard class. Explosives are covered by other legislation in Canada.

### **WHMIS 2015 - HAZARD CATEGORIES**

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

Some hazard classes have only one category (e.g., corrosive to metals), others may have two categories (e.g., carcinogenicity (cancer)) or three categories (e.g., oxidizing liquids). There are a few hazard classes with five or more categories (e.g., organic peroxides).

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

- Category 1 is always the greatest level of hazard (that is, 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 and do not describe the degree of hazard.

In addition, the Reproductive Toxicity hazard class has a separate category called "Effects on or via lactation". "Effects on or via lactation" was not assigned a specific numbered category. Reproductive toxicity also has Categories 1 and 2 which relate to effects on fertility and/or the unborn child. Effects on or via lactation is considered a different, but related hazard within the Reproductive toxicity class.

## **WHMIS 2015 - PICTOGRAMS**

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

Most pictograms have a distinctive red "square set on one of its points" border. Inside this border is a symbol that represents the potential hazard (e.g., 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.

## WHMIS 2015 HAZARD CLASSES AND CATEGORIES

The following pictograms will be associated with these hazard classes and categories.



The **flame** pictogram is used for the following classes and categories:

- Flammable gases (Category 1)
- Flammable aerosols (Category 1 and 2)
- Flammable liquids (Category 1, 2 and 3)
- Flammable solids (Category 1 and 2)
- Pyrophoric liquids (Category 1)
- Pyrophoric solids (Category 1)
- Pyrophoric gases (Category 1)
- Self-heating substances and mixtures (Category 1 and 2)
- Substances and mixtures which, in contact with water, emit flammable gases (Category 1, 2 and 3)
- Self-reactive substances and mixtures (Types B\*, C, D, E and F)
- Organic peroxides (Types B\*, C, D, E and F)



The **flame over circle** pictogram is used for the following classes and categories:

- Oxidizing gases (Category 1)
- Oxidizing liquids (Category 1, 2 and 3)
- Oxidizing solids (Category 1, 2 and 3)



The **gas cylinder** pictogram is used for the following classes and categories:

- Gases under pressure (Compressed gas, Liquefied gas, Refrigerated liquefied gas, and Dissolved gas)



The **corrosion** pictogram is used for the following classes and categories:

- Corrosive to metals (Category 1)
- Skin corrosion/irritation - Skin corrosion (Category 1, 1A, 1B and 1C)
- Serious eye damage/eye irritation - Serious eye damage (Category 1)



The **exploding bomb** pictogram is used for the following classes and categories:

- Self-reactive substances and mixtures (Types A and B\*)
- Organic peroxides (Types A and B\*)



The **skull and crossbones** pictogram is used for the following classes and categories:

- Acute toxicity -
  - Oral (Category 1, 2 and 3)
  - Dermal (Category 1, 2 and 3)
  - Inhalation (Category 1, 2 and 3)



The **health hazard** pictogram is used for the following classes and categories:

- Respiratory or skin sensitization - Respiratory sensitizer (Category 1, 1A and 1B)
- Germ cell mutagenicity (Category 1, 1A, 1B and 2)
- Carcinogenicity (Category 1, 1A, 1B, and 2)
- Reproductive toxicity (Category 1, 1A, 1B and 2)
- Specific Target Organ Toxicity - Single exposure (Category 1 and 2)
- Specific Target Organ Toxicity - Repeated exposure (Category 1 and 2)
- Aspiration hazard (Category 1)



The **exclamation mark** pictogram is used for the following classes and categories:

- Acute toxicity – Oral, Dermal, Inhalation (Category 4)

- Skin corrosion/irritation – Skin irritation (Category 2)

**Serious eye damage/eye irritation – Eye irritation (Category 2 and 2A)**

- Respiratory or skin sensitization – Skin sensitizer (Category 1, 1A and 1B)
- Specific target organ toxicity – Single exposure (Category 3)



The **biohazardous infectious materials** pictogram is used for the following classes and categories:

- Biohazardous Infectious Materials (Category 1)

\* Both the Flame and Explosive pictogram are used for Self-reactive substances and mixtures (Type B) and Organic peroxides (Type B)

**NOTE:** Physical Hazards Not Otherwise Classified and Health Hazards Not Otherwise Classified classes are required to have a GHS pictogram that is appropriate to the hazard identified.



The **environmental hazard** pictogram is used for the following classes and categories:

- May cause damage to the aquatic environment

## **HAZARD CLASSES AND CATEGORIES WITHOUT PICTOGRAMS**

There are hazardous products that meet the criteria for a hazard class or category, but these classes and categories do not require a pictogram. The product label and Section 2 (Hazards Identification) of the SDS still require the signal word, hazard statement(s), and other required label elements.

WHMIS 2015 classes and categories that do not require a pictogram are:

- 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**

Pictograms will be on the product supplier labels of the hazardous products you work with. They will also be on the SDSs (as the symbol or words that describe the symbol).

## WHMIS 2015 Labelling

In Canada, WHMIS legislation requires that products used in the workplace that meet the criteria to be classified as hazardous products must be labelled.

Labels are the first alert to the user about the major hazards associated with that product, and outline the basic precautions or safety steps that should be taken.

In most cases, suppliers are responsible for labelling the hazardous products that they provide to customers.

Employers are responsible for making sure that hazardous products that come into the workplace are labelled and to prepare and apply a workplace label when appropriate.

There are two main types of WHMIS labels: supplier labels, and workplace labels.

A supplier label is provided or affixed (attached) by the supplier and will appear on all hazardous products received at a workplace in Canada. If the hazardous product is always used in the container with the supplier label, no other label is required.

A workplace label is required when:

- hazardous product is produced (made) at the workplace and used in that workplace,
- hazardous product is decanted (e.g., transferred or poured) into another container, or
- supplier label becomes lost or illegible (unreadable).

There are two situations when a workplace label is not necessary. When a hazardous product is:

- poured into a container and it is going to be used immediately, or
- "under the control of the person who decanted it". For example, when the person who poured the product into another container will be the only person who will use it, and the product will be used during one shift, a full workplace label may not be required. However, the container must still be identified with the product identifier (name).

If the product is not used right away or if more than one person will be in control of the product, a full workplace label is required. Note that a company may have specific rules about labelling containers that are above or exceed the WHMIS requirements.

## WHMIS 2015 Supplier Labels

New requirements for supplier labels include signal words, and standardized hazard statements and precautionary statements.

Most hazard classes and categories have a prescribed signal word, hazard statement and pictogram. Supplier labels continue to be required in both English and French. See the WHMIS 2015 Supplier Labels Fact Sheet for further information.

<p><b>1 Product K1 / Produit K1</b></p> <p><b>2</b>  </p> <p><b>3 Danger</b> Fatal if swallowed. Causes skin irritation.</p> <p><b>4</b> <b>Precautions:</b> Wear protective gloves. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.</p> <p>Store locked up. Dispose of contents/containers in accordance with local regulations.</p> <p><b>5</b> IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. IF SWALLOWED: Immediately call a POISON CENTRE or doctor. Rinse mouth.</p> <p><b>6</b> ABC Chemical Co., 123 rue Anywhere St., Mytown, ON NON ONO (123) 456-7890</p> <p><b>Danger</b> Mortel en cas d'ingestion. Provoque une irritation cutanée.</p> <p><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.</p> <p>Garder sous clef. Éliminer le contenu/réceptacle conformément aux règlements locaux en vigueur.</p> <p>EN CAS DE CONTACT AVEC LA PEAU : Laver abondamment à l'eau. En cas d'irritation cutanée : Demander un avis médical/consulter un médecin. Enlever les vêtements contaminés et les laver avant réutilisation. EN CAS D'INGESTION : Appeler immédiatement un CENTRE ANTIPOISON ou un médecin. Rincer la bouche.</p>	<p><b>1. Product Identifier</b> The product name exactly as it appears on the container and on the Safety Data Sheet (SDS).</p> <p><b>2. Hazard Pictograms</b> Hazard pictograms, determined by the hazard classification of the product. In some cases, no pictogram is required.</p> <p><b>3. Signal Words (NEW)</b> “Danger” or “Warning” are used to emphasize hazards and indicate the severity of the hazard.</p> <p><b>4. Hazard Statements</b> Brief standardized statements of all hazards based on the hazard classification of the product.</p> <p><b>5. Precautionary Statements</b> These statements describe recommended measures to minimize or prevent adverse effects from exposure to the product, including protective equipment and emergency measures. First aid is included in precautionary information.</p> <p><b>6. Supplier Identifier</b> The company which made, packaged, sold or imported the product, and is responsible for the label and SDS. Contact the supplier for additional product information.</p>
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## WHMIS 2015 - SIGNAL WORD

A signal word is a prompt that alerts you about the degree or level of hazard of the product. There are only two signal words used: "**Danger**" or "**Warning**". "Danger" is used for high risk hazards, while "Warning" is used for less severe hazards. If a signal word is assigned to a hazard class and category, it must be shown on the label, and listed in section 2 (Hazards Identification) of the Safety Data Sheet (SDS).

Some hazard classes or categories do not have a signal word assigned to them.

## **WHMIS 2015 - HAZARD STATEMENT**

Each hazard class and category has an assigned "hazard statement". Hazard statements are brief, standardized sentences that tell you more about the exact hazard of the product. The statements are short but they describe the most significant hazards of the product.

Examples of hazard statements are:

- Extremely flammable gas.
- Contains gas under pressure; may explode if heated.
- Fatal if inhaled.
- Causes eye irritation.
- May cause cancer.

The wording of the hazard statement helps to describe the degree of the hazard. For example: "May cause cancer" is more hazardous than "Suspected of causing cancer".

## **WHMIS 2015 - PRECAUTIONARY STATEMENT**

Precautionary statements provide advice on how to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper storage or handling of a hazardous product. These statements can include instructions about storage, handling, first aid, personal protective equipment and emergency measures. Like the hazard statements, the wording of precautionary statements is standardized and harmonized.

There are five types of precautionary statements:

- General.
- Prevention.
- Response (including first aid).
- Storage.
- Disposal.

Examples of precautionary statements are:

- Keep container tightly closed.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If exposed or concerned: Get medical advice/attention.
- Fight fire remotely due to the risk of explosion.
- Protect from sunlight.

Precautionary statements will be consistent with the degree of the hazard associated with the product

## **WHMIS 2015 - WHAT DOES IT MEAN**

The use of the slash (/) or the dots (...) are intended as instructions to the supplier to help them prepare the label and SDS.

For example, the guidance material from GHS lists the following precautionary statement "Wear protective gloves/protective clothing/eye protection/face protection."

The slash (/) means the supplier is to specify the appropriate type of equipment based on their knowledge of the product and how it is used. So, for example, this statement could appear as:

- Wear protective gloves and eye protection.

Or

- Wear protective gloves.

Or

- Wear protective gloves, protective clothing, eye protection, and face protection.

Another example is "Do not subject to grinding/shock/friction/...". In this case, the supplier is to specify the applicable rough handling circumstance to avoid (grinding, shock and/or friction), and the dots (...) mean they are to consider other types of rough handling that should be mentioned.

## **WHMIS 2015- WORKPLACE LABEL**

It is anticipated that a workplace label will require the following information:

- Product name (matching the SDS product name).
- Safe handling precautions, may include pictograms or other supplier label information.
- A reference to the SDS (if available).

Workplace label requirements fall under your provincial or territorial jurisdiction, or under the Canada Labour Code if you work in a federally regulated workplace. Again, watch for confirmation, updates, or changes to these requirements when the WHMIS regulations in your jurisdiction are updated.

## WHMIS 2015 - ADDITIONAL LABELS TYPES

In specific cases, yes. 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. Workers must be trained to be able to identify these alternate systems if they are used in the workplace.

Variations on the supplier label apply for specific situations such as:

- **Bulk shipments** - A labelling exemption exists for products sold without packaging.
- **100 mL or less** - Exempt only from requirement to have precautionary or hazard statements on the label.
- **3mL or less** - Where the label will interfere with normal use of the product, the product would be required to have a label that is durable and legible for transport and storage, but may be removable during use.

However, the two main types that are used most often are the supplier label and the workplace label

### Examples of Workplace Labels- Contain the following information

- 1. Product Identifier**
- 2. Hazard Pictograms( Optional)**
- 3. Precautionary Statements**
- 4. Reference to SDS**

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. Follow any additional education, instructions, and training as provided by your employer.
- Ask your supervisor if you are not sure about how to use or store it.
- Ask for a new label when the old one cannot be seen or read properly.
- Do not use a product that is not labelled or if the label is unreadable. Ask your supervisor for help (e.g., to replace the label).

## WHMIS 2015 - Safety Data Sheets (SDSs)

Safety Data Sheets (SDSs) are summary documents that provide information about the hazards of a product and advice about safety precautions. SDSs are usually written by the manufacturer or supplier of the product. In some circumstances, an employer may be required to prepare an SDS (e.g., when the product is produced and used exclusively in that workplace).

SDSs provide more detailed hazard information about the product than the label. They are an important resource for workplaces and workers to help you learn more about the product(s) used. Use this information to identify the hazards of the products you use and to protect yourself from those hazards, including safe handling and emergency measures.

SDSs tell users what the hazards of the product are how to use the product safely, what to expect if the recommendations are not followed, how to recognize symptoms of exposure, and what to do if emergencies occur.

Every product that is classified as a “hazardous product” under WHMIS that is intended for use, handling or storage in a workplace in Canada must have an SDS.

SDSs must follow a standard 16-section format. There are some new information requirements, for example, inclusion of the WHMIS classification, hazard statements and other label elements.

Worker access to SDSs is required. Ensure that updated SDSs are obtained for all hazardous products used in the workplace.

Summary of SDSs requirements		
Section (Item)	Issue (Heading)	Requirements (Specific Information Element)
1.	Identification	Requirements consist of: (a) product identifier; (b) other means of identification; (c) recommended use and restrictions on use; (d) initial supplier identifier; and (e) emergency telephone number and any restrictions on the use of that number, if applicable.
2.	Hazard identification	Requirements consists of: (a) classification of the hazardous product, (e.g. Carcinogenicity, Category 1); (b) the symbol, signal word, hazard statement and precautionary statement, for each of the applicable classes . If the required information element is a symbol, either the name of the symbol or the symbol itself may be used; and (c) other hazards known to the supplier with respect to the hazardous product.
3.	Composition/	Requirements consist of:

## Summary of SDSs requirements

Section (Item)	Issue (Heading)	Requirements (Specific Information Element)
	Information on ingredients	<p>(1) If the hazardous product is a material or substance,  <i>(a)</i> its chemical name;  <i>(b)</i> its common name and synonyms;  <i>(c)</i> its CAS registry number and any unique identifiers; and  <i>(d)</i> the chemical name of the impurities, stabilizing solvents and stabilizing additives that are known to the supplier, that individually are classified in any category or subcategory of a health hazard class and that contribute to the classification of the material or substance.</p> <p>Requirements consist of:            (2) If the hazardous product is a mixture, provide the  <i>(a)</i> chemical name;  <i>(b)</i> common name and synonyms;  <i>(c)</i> CAS registry number and any unique identifiers; and  <i>(d)</i> concentration of each material or substance in the mixture that, individually, is classified in a health hazard class and is present above the concentration limit for that class or, if not above the concentration limit, is present in the mixture at a concentration that results in the mixture being classified in any health hazard class.</p>
4.	First-aid measures	<p>Requirements consists of:  <i>(a)</i> a description of necessary first-aid measures, subdivided according to the different routes of exposure (inhalation, ingestion, skin and eye contact);  <i>(b)</i> the most important symptoms and effects, whether acute or delayed; and  <i>(c)</i> an indication of immediate medical attention and special treatment needed, if necessary.</p>
5.	Fire-fighting measures	<p>Requirements consists of:  <i>(a)</i> suitable and unsuitable extinguishing media;  <i>(b)</i> specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products; and  <i>(c)</i> special protective equipment and precautions for fire-fighters.</p>
6.	Accidental release measures	<p>Requirements consist of:  <i>(a)</i> personal precautions, protective equipment and emergency procedures; and  <i>(b)</i> methods and materials for containment and cleaning up.</p>
7.	Handling and storage	<p>Requirements consist of:  <i>(a)</i> precautions for safe handling; and  <i>(b)</i> conditions for safe storage, including any incompatibilities.</p>
8.	Exposure Controls/ Personal protection	<p>Requirements consist of:  <i>(a)</i> control parameters, including occupational exposure limit values or biological limit values and the source of those values;  <i>(b)</i> appropriate engineering controls; and  <i>(c)</i> individual protection measures, such as personal protective equipment.</p>
9.	Physical and chemical	<p>Requirements consists of:  <i>(a)</i> appearance, such as physical state and colour;</p>

## Summary of SDSs requirements

Section (Item)	Issue (Heading)	Requirements (Specific Information Element)
	properties	<p>(b) odour;</p> <p>(c) odour threshold;</p> <p>(d) pH;</p> <p>(e) melting point and freezing point;</p> <p>(f) initial boiling point and boiling range;</p> <p>(g) flash point;</p> <p>(h) evaporation rate;</p> <p>(i) flammability, in the case of solids and gases;</p> <p>(j) upper and lower flammability or explosive limits;</p> <p>(k) vapour pressure;</p> <p>(l) vapour density;</p> <p>(m) relative density;</p> <p>(n) solubility;</p> <p>(o) partition coefficient -- n-octanol/water;</p> <p>(p) auto-ignition temperature;</p> <p>(q) decomposition temperature; and</p> <p>(r) viscosity.</p>
10.	Stability and reactivity	<p>Requirements consists of:</p> <p>(a) reactivity;</p> <p>(b) chemical stability;</p> <p>(c) possibility of hazardous reactions;</p> <p>(d) conditions to avoid, including static discharge, shock or vibration;</p> <p>(e) incompatible materials; and</p> <p>(f) hazardous decomposition products.</p>
11.	Toxicological information	<p>Requirements consists of:</p> <p>Concise but complete description of the various toxic health effects and the data used to identify those effects, including</p> <p>(a) information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);</p> <p>(b) symptoms related to the physical, chemical and toxicological characteristics;</p> <p>(c) delayed and immediate effects, and chronic effects from short-term and long-term exposure; and</p> <p>(d) numerical measures of toxicity, including Acute Toxicity Estimates (ATEs).</p>
12.	Ecological information	<p>While the heading of this section is required to preserve the SDS 16-heading format, content within this section is optional.</p> <p>Content consists of:</p> <p>(a) ecotoxicity (aquatic and terrestrial, if available);</p> <p>(b) persistence and degradability;</p> <p>(c) bioaccumulative potential;</p> <p>(d) mobility in soil; and</p> <p>(e) other adverse effects.</p>
13.	Disposal considerations	<p>While the heading of this section is required to preserve the SDS 16-heading format, content within this section is optional.</p> <p>Content consists of:</p> <p>Information on safe handling for disposal and methods of disposal, including any contaminated packaging.</p>
14.	Transport	<p>While the heading of this section is required to preserve the SDS</p>

Summary of SDSs requirements		
Section (Item)	Issue (Heading)	Requirements (Specific Information Element)
	information	16- heading format, content within this section is optional. Content consists of: (a) UN number; (b) to (d) United Nations proper shipping name, transport hazard class, and packing group, as provided for in the UN Model Regulations; (e) environmental hazards according to the <i>International Maritime Dangerous Goods Code</i> and the UN Model Regulations; (f) transport in bulk (according to Annex II of the <i>International Convention for the Prevention of Pollution From Ships, 1973</i> , as modified by the Protocol of 1978 (MARPOL 73/78), and the <i>International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk</i> (IBC Code)); and (g) special precautions in connection with transport or conveyance either within or outside the premises.
15.	Regulatory information	While the heading of this section is required to preserve the SDS 16- heading format, content within this section is optional. Content consists of: Safety, health and environmental regulations, made within or outside Canada, specific to the product in question.
16.	Other information	Date of the latest revision of the SD

## When to use SDS

Always be familiar with the hazards of a product **before** you start using it. You should look at an SDS, match the name of the product on the container to the one on the SDS, know the hazards, understand safe handling and storage instructions, as well as understand what to do in an emergency.

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

- a. **Identification:** for the product and supplier.
- b. **Hazards:** physical (fire and reactivity) and health.
- c. **Prevention:** steps you can take to work safely, reduce or prevent exposure, or in an emergency.
- d. **Response:** appropriate responses in various situations (e.g., first-aid, fire, accidental release).

For most people who work with hazardous products, you should always:

- read the name of the chemical (Section 1),
- know the hazards (Section 2),
- understand safe handling and storage instructions (Section 7), and
- understand what to do in an emergency (Sections 4, 5 and 6).

A few things to know:

- Make sure that the product is being used in the way the manufacturer intended; otherwise the advice provided on the SDS and label may not apply, or the protective measures listed may not be adequate. Section 1 of the SDS should describe the typical use of the product and may indicate restrictions. Ask your supervisor or a health and safety professional for advice if the way you use the product does not match the SDS.
- Section 2 will summarize the hazards related to the product, precautions to take, and what to do in an emergency. Understand that the SDS covers information about the potential hazards, but may not be specific about the required safe work procedures needed for your workplace (e.g., the SDS may not specify what type of respirator must be used, just that a respirator is needed). More information can be found by asking your supervisor. These decisions may require the help of a safety professional or someone with chemical safety knowledge.

## Updating SDSs

SDSs are required to be accurate at the time of sale. An SDS will be required to be updated when the supplier becomes aware of any "significant new data". The definition of "significant new data" is:

"New data regarding the hazard presented by a hazardous product that change its classification in a category or subcategory of a hazard class, or result in its classification in another hazard class, or change the ways to protect against the hazard presented by the hazardous product."  
(Source: *Canada Gazette*, Part II, Hazardous Products Regulations, Section 5.12 (1))

This definition means that an SDS must be updated when there is new information that changes how the hazardous product is classified, or when there are changes to the way you will handle or store or protect you from the hazards of the product.

SDSs will be required to be updated within 90 days of the supplier being aware of the new information. If you purchase a product within this 90 day time period, the supplier must inform you of the significant new data and the date on which it became available in

### How to find out if an SDS has been updated

Every SDS must provide a date of last revision in Section 16 – Other Information. You will know if an SDS has been updated by checking this date, and comparing it to the one on any previous SDS you have.

Note that there is no requirement for the supplier to provide an updated SDS to past purchasers of a hazardous product. However, it continues to be good practice to provide this information to purchasers who may still be using the product.

### Confidential Business Information (CBI)

WHMIS requires that suppliers provide employers with the necessary information to help make it possible to safely use hazardous products in Canadian workplaces. If a product is considered hazardous but certain information is considered confidential or a trade secret, then a claim may be filed to protect this Confidential Business Information (CBI) under the *Hazardous Materials Information Review Act* (HMIRA).

CBI protection in Canada remains largely the same under WHMIS 2015 as it was under WHMIS 1988. Health Canada is the government body responsible for CBI and WHMIS-related laws. The protection of CBI is a process that allows certain information, such as the chemical identity of one or more trade secret hazardous ingredients in a WHMIS-regulated product, to not be disclosed on the safety data sheet (SDS) and/or label for the hazardous product. A supplier or employer who wants to protect CBI must file a claim for exemption with Health Canada. The CBI process includes a Health Canada review of the SDS and/or label to verify that the hazard and safe use information complies with WHMIS 2015 requirements. This mechanism balances workers' right-to-know with industry's need to protect trade secrets.

## WHMIS 1998

There are six hazard classes and eight hazard symbols that identify the specific hazards. (There are three symbols in Class D.) The eight hazard symbols identify the specific hazards of controlled products:

### Hazard Classes and Pictograms

<b>CLASS A</b>  Compressed Gas	<b>CLASS B</b>  Flammable and Combustible Material	<b>CLASS C</b>  Oxidizing Material
<b>CLASS D</b>  1. Materials Causing Immediate and Serious Toxic Effects	<b>CLASS D</b>  2. Materials Causing Other Toxic Effects	<b>CLASS D</b>  3. Biohazardous Infectious Materials
<b>CLASS E</b>  Corrosive Material	<b>CLASS F</b>  Dangerously Reactive Material	

The Table below will show you WHMIS 1988 hazard symbols alongside the equivalent WHMIS 2015 symbols.

WHMIS Chemical Hazards Pictograms 2015

WHMIS 1988 Hazard Class	WHMIS 1988 Symbols	WHMIS 2015 Symbols	WHMIS 2015 Hazard Class
A			Gases Under Pressure
B1 to B6			Flammables, Self-Heating, Emit Flammable Gases, Pyrophoric Gases, Liquids & Solids Organic Peroxides
C			Oxidizing Gases, Liquids, Solids
D1			Acute Toxicity - Oral, Dermal, Inhalation
D2			Eye Irritation, Skin Irritation Skin/Respiratory Sensitization, Carcinogenicity Mutagenicity Reproductive Hazards
D3			Biohazardous Infectious Materials
E			Skin/Eye Corrosion Corrosive to Metals
F			Self-Reactive Substances Organic Peroxides
N/A	N/A		Explosive Substances (Explosives are still covered under WHMIS exclusions for now)
N/A	N/A		Aspiration, STOT (Single Exposure, Repeated Exposure)
N/A	N/A	N/A	Combustible Dusts
N/A	N/A	N/A	Simple Asphyxiants
N/A	N/A	Use appropriate symbol	Physical Hazards Not Otherwise Classified, Health Hazards Not Otherwise Classified

## WHMIS 1998- Material Safety Data Sheets

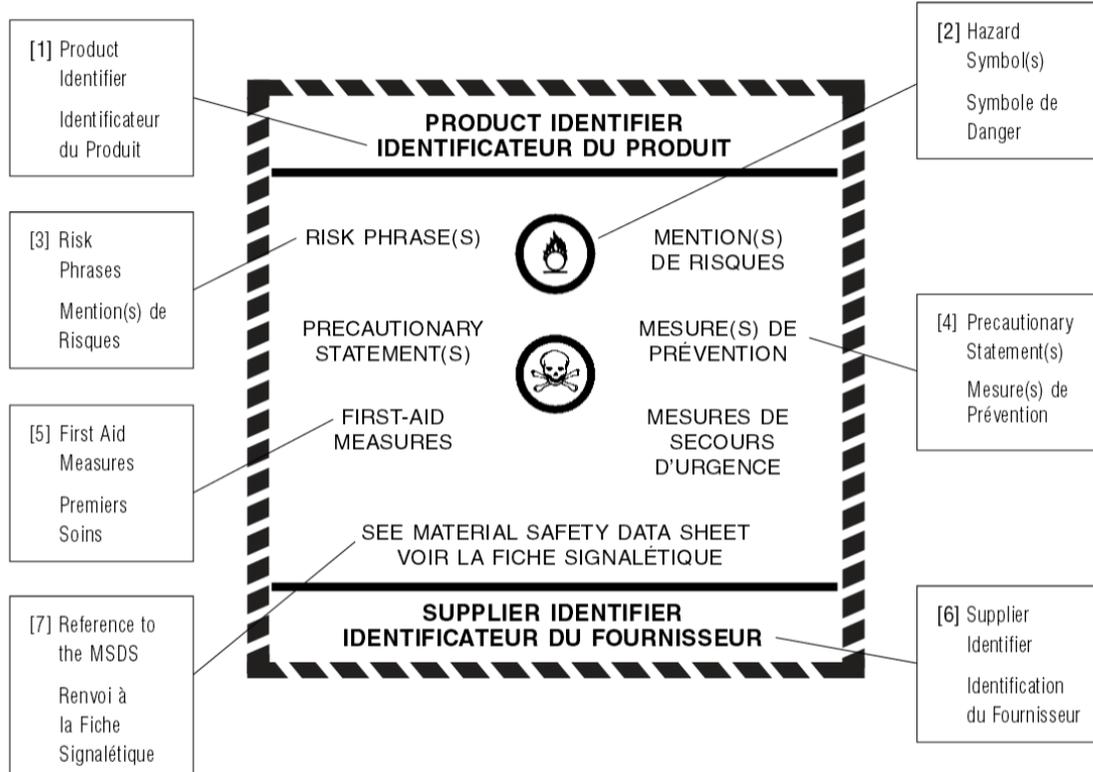
There are nine recommended headings for Material Safety Data Sheets.

<p><u>Recommended headings:</u></p> <p>Section 1 — Product Information</p> <p>Section 2 — Hazardous Ingredients</p> <p>Section 3 — Physical Data</p> <p>Section 4 — Fire and Explosion Data</p> <p>Section 5 — Reactivity Data</p> <p>Section 6 — Toxicological Properties</p> <p>Section 7 — Preventive Measures</p> <p>Section 8 — First Aid Measures</p> <p>Section 9 — Preparation Information</p>	<p><u>Additional sections that may be included:</u></p> <p>Section 10 — Stability and Recovery</p> <p>Section 11 — Toxicological Information</p> <p>Section 12 — Ecological Information</p> <p>Section 13 — Disposal considerations</p> <p>Section 14 — Transport Information</p> <p>Section 15 — Regulatory Information</p> <p>Section 16 — Other Information</p>
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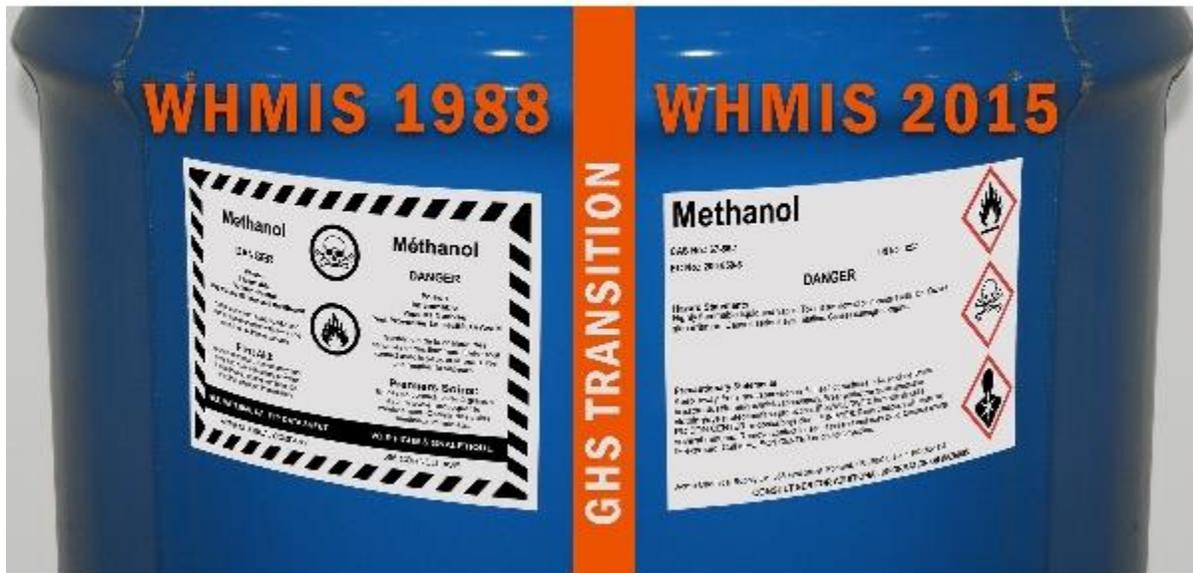
Comparison of MSDS headings in WHMIS 1998 and WHMIS 2015			
WHMIS-1998- MSDS		WHMIS 2015-SDS	
Item	Heading	Section	Heading
1	Hazardous Ingredients	1	Product Identification
2	Preparation Information	2	Hazards Identification
3	Product Information	3	Composition/Information on Ingredients
4	Physical Data	4	First Aid Measures
5	Fire or Explosion Hazard	5	Fire Fighting Measures
6	Reactivity Data	6	Accidental Release Measures
7	Toxicological Properties	7	Handling and Storage
8	Preventive Measures	8	Exposure Controls/Personal Protection
9	First Aid Measures	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

\* Sections 12-15 require the headings to be present, but under Canadian regulations, the supplier has the option to not provide information in these sections

## WHMIS 1998 Supplier Label



## Comparing Supplier Labels WHMIS 1998- WHMIS 2015



WHMIS 1988	WHMIS 2015
Product identifier	Product identifier
Reference to MSDS	Signal Word
Risk phrases	Hazard statement
Precautionary statements	Precautionary statement
First aid measures	Part of precautionary statement
Hazard symbols	Pictograms
English / French version	English / French version
WHMIS hatched border	N/A
Supplier identification	Initial supplier identifier