

WHMIS - Overview

Workplace Hazardous Materials Information System, referred to as WHMIS, is a Canada-wide program designed to educate, inform and protect workers who may handle, or may be exposed to hazardous material on the job.

The federal government implemented the UN's Globally Harmonized System (GHS), an international system for classifying and labelling chemicals in 2015. The new WHMIS, called "WHMIS 2015," is based on the new requirements contained in the Hazard Products Regulations and Hazardous Products Act. All provinces and territories must amend their WHMIS requirements to reflect the changes to federal WHMIS legislation and regulations.

WHMIS 2015 doesn't replace the original WHMIS (WHMIS 1988) but rather updates the laws to align as closely as possible with the US version of GHS (Hazard Communication Standard 2012). Although WHMIS 2015 includes new criteria for hazard classification and new requirements for labels and safety data sheets (SDSs), the basic roles and responsibilities for suppliers, employers and workers haven't changed.

Education Program

In Canada, if a workplace uses hazardous products, there must be a WHMIS program in place. Workers must be educated and trained so they understand the hazards, and know how to work safely with hazardous products.

All workers who work with a hazardous product, or who may be exposed to a hazardous product as part of their work activities must learn about the hazard information for these products. The hazard information should include the information received from the supplier, as well as any other information that the employer is aware of about the use, storage and handling of each product.

As an example, this education and training will include all workers who:

- May be exposed to a hazardous product due to their work activities (including normal use, maintenance activities, or emergencies).
- Use, store, handle or dispose of a hazardous product.
- Supervise or manage workers who may be exposed, or use, store, handle or dispose of a hazardous product.
- Are involved in emergency response.

Generic WHMIS education can apply to any workplace. WHMIS education and training must also include workplace-specific training. Site specific awareness/training must be communicated at the client site. Assignment employees must ask their supervisor for further clarifications and instructions prior to proceeding with his/her task if he/she encounters a symbol at a client site in which he/she is not familiar with.

Internal Training

The purpose of WHMIS awareness is to familiarize the new applicant and/or assignment employee with hazard identification at the employer site. The current orientation program implemented by Recruiting in Motion Inc. includes reading the material and performing a WHMIS assessment. Applicants and/or assignment employees are not allowed to have any assistance while completing the assessment. All incorrect answers will be reviewed with the applicant and/or assignment employee by Recruiting in Motion Inc.'s consultant before placement.

Process

1. The applicant and/or assignment employee reviews the material in the Occupational Health and Safety Manual.
2. The applicant and/or assignment employee asks questions for any clarification.
3. The applicant and/or assignment employee completes the WHMIS assessment.
4. The consultant reviews the test, and for any missed or incorrect questions the consultant (depending on the number of incorrect answers) either:
 - Has the applicant and/or assignment employee review the material once more.
 - Counsel the applicant and/or assignment employee on the material.
 - Have the applicant and/or assignment employee rewrite the test following further instructions.
5. The applicant and/or assignment employee must have all answers correct and display an understanding before he/she can pass.

Assignment Employee's Rights and Responsibilities

Under WHMIS legislation, Assignment Employees have the right to:

- a) Be informed of all hazards they might be exposed to, their use, storage and handling.
- b) Refuse unsafe work.
- c) Consult with the Joint Health and Safety Committee or the health safety representative.

Assignment Employees also have duties to:

- Participate in WHMIS awareness.
- Handle hazardous materials in a safe manner.

Suppliers' Responsibilities

Suppliers are those organizations who, in the course of business, sell or import hazardous products. Suppliers must ensure the appropriate classification of hazardous products. This classification is determined based on comparison of all available hazard data for the ingredients or mixture to the WHMIS requirements as outlined in the Hazardous Products Regulations (WHMIS 2015) or the Controlled Products Regulations (WHMIS 1988).

When a product is considered to be a "hazardous product", the supplier must label the product or container and they must provide a safety data sheet (SDS) to their customers. The purpose of the label is to clearly identify the hazardous product, the supplier, the hazards and precautionary measures. The SDS provides more information about that product.

Employers' Responsibilities

When a hazardous product is used in the workplace, employers are required to:

- Educate and train workers on the hazards and safe use of products.
- Ensure that hazardous products are properly labelled.
- Prepare workplace labels, as needed.
- Prepare SDSs, as necessary (e.g., if an employer manufactures a hazardous product that is used on-site).
- Provide access to up-to-date SDSs to workers.
- Ensure appropriate control measures are in place to protect the health and safety of workers.

What is WHMIS 2015?

WHMIS has aligned with the worldwide hazard communication system known as GHS - the Globally Harmonized System of Classification and Labelling of Chemicals. Aligning with GHS provides many benefits, including:

- Hazard classification criteria are more comprehensive which improves ability to indicate severity of hazards.
- New hazard classes are included.
- Physical hazard criteria are consistent with the Transport of Dangerous Goods (TDG regulations).
- Standardized language (hazard and precautionary statements).
- Standardized SDS format and more comprehensive requirements.

Status of the NEW WHMIS Regulations

The Hazardous Products Regulations were published in Canada Gazette, Part II on February 11, 2015. Both the amended Hazardous Products Act and new regulations are currently in force. "In force" means that suppliers may begin to use and follow the new requirements for labels and SDSs for hazardous products sold, distributed, or imported into Canada.

WHMIS 2015

The main components of WHMIS 2015 are:

- Worker Education and Training
- Labelling
- Hazard Identification and Product Classification
- Safety Data Sheets (SDS)

Products Covered Under WHMIS

The Hazardous Products Regulations set out specific hazard classification criteria. If a product covered by the Hazardous Products Act meets the criteria to be included in a hazard class or category, it is considered to be a "hazardous product". All hazardous products used in the workplace are covered by the WHMIS regulations, and a WHMIS program, including education and training, must be in place.

Products not covered by WHMIS

The exclusions under WHMIS 2015 are:

- Explosives as defined in the Explosives Act.
- Cosmetic, device, drug or food as defined in the Food and Drugs Act.
- Pest control products as defined in the Pest Control Products Act.
- Consumer products as defined in the Canada Consumer Product Safety Act.
- Wood or products made of wood.
- Nuclear substances within the meaning of the Nuclear Safety and Control Act, that are radioactive.
- Hazardous waste being a hazardous product that is sold for recycling or recovery and is intended for disposal.
- Tobacco and tobacco products as defined in the Tobacco Act.
- Manufactured articles.

Many of these products are covered under other legislation. Note that while a product may be exempt from the requirement to have a WHMIS label and SDS, employers must still provide education and training on health effects, safe use, and storage.

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.

Types of Labels

There are two main types of WHMIS labels:

1. Supplier labels, and
2. Workplace labels.

Supplier Label

1. 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.

Supplier labels must be written in English and French. They may be bilingual (as one label), or available as two labels (one each in English and French).

The 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 either the Canadian manufacturer or the Canadian importer*.
3. **Pictogram(s)** – hazard symbol within a red "square set on one of its points".
4. **Signal word** – a word used to alert the reader to a potential hazard and to indicate the severity of the hazard.
5. **Hazard statement(s)** - standardized phrases which describe the nature of the hazard posed by a hazardous product.
6. **Precautionary statement(s)** – standardized phrases that describe measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper handling or storage of a hazardous product.
7. **Supplemental label information** - some supplemental label information is required based on the classification of the product. For example, the label for a mixture containing ingredients with unknown toxicity in amounts higher than 1% must include a statement indicating the percent of the ingredient or ingredients with unknown toxicity.

Labels may also include supplementary information about precautionary actions, hazards not yet included in the GHS, physical state, or route of exposure. This information must not contradict or detract from the standardized information.

* Initial supplier identifier - There are two exceptions to this requirement:

- (1) In a situation where a hazardous product is being sold by a distributor, the distributor may replace the name, address and telephone number of the initial supplier with their own contact information.
- (2) In a situation where an importer imports a hazardous product for use in their own workplace in Canada (i.e., the importer is not selling the hazardous product), the importer may retain the name, address and telephone number of the foreign supplier on the SDS instead of replacing it with their own contact information.

Format of a Supplier Label

There is no set format for a supplier label. As mentioned, labels must be in English and French. They may be bilingual (as one label), or be presented as two labels (one each in English and French).

Labels will require the following:

- The pictogram, signal word, and hazard statement are to be grouped together,
- To be clearly and prominently displayed on the container,
- To be easy to read (e.g., you can see it easily without using any item except corrective glasses), and
- To be in contrast with other information on the product or container.

Workplace Label

2. A **workplace label** is required when a:

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

There are two situations when a workplace label is not necessary.

When a hazardous product is:

- (a) Poured into a container and it is going to be used immediately, or
- (b) "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.

Format of a Workplace Label

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)

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.

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".

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
- Response
- Prevention
- 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.

What does it mean if I see "/" or "..." on the label for my product?

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.

Are there any other differences in labels allowed?

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, stenciled 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.

As an Assignment Employee, what should I do when using a hazardous product?

- ✓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).

HAZARD CLASSIFICATION

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 is allowed by WHMIS 2015.

Hazard Class

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.

List of Hazard Classes

Physical Hazards	Health Hazards
Flammable gases	Acute toxicity
Flammable aerosols	Skin corrosion/irritation
Oxidizing gases	Serious eye damage/eye irritation
Gases under pressure	Respiratory or skin sensitization
Flammable liquids	Germ cell mutagenicity
Flammable solids	Carcinogenicity
Self-reactive substances and mixtures	Reproductive toxicity
Pyrophoric liquids	Specific target organ toxicity – single exposure
Pyrophoric solids	Specific target organ toxicity – repeated exposure
Self-heating substances and mixtures	Aspiration hazard
Substances and mixtures which, in contact with water, emit flammable gases	Biohazardous infectious materials
Oxidizing liquids	Health hazards not otherwise classified
Oxidizing solids	
Organic peroxides	
Corrosive to metals	
Combustible dusts	
Simple asphyxiants	
Pyrophoric gases	
Physical 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.

Hazard Category

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.

Main Concerns for Each Physical Hazard Class

Hazard Class	General Description
Flammable gases Flammable aerosols Flammable liquids Flammable solids	These four classes cover products that have the ability to ignite (catch fire) easily and the main hazards are fire or explosion.
Oxidizing gases Oxidizing liquids Oxidizing solids	These three classes cover oxidizers, which may cause or intensify a fire or cause a fire or explosion.
Gases under pressure	This class includes compressed gases, liquefied gases, dissolved gases and refrigerated liquefied gases. 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. Refrigerated liquefied gases are very cold and can cause severe cold (cryogenic) burns or injury.
Self-reactive substances and mixtures	These products may react on their own to cause a fire or explosion, or may cause a fire or explosion if heated.
Pyrophoric liquids Pyrophoric solids Pyrophoric gases	These products can catch fire very quickly (spontaneously) if exposed to air.
Self-heating substances and mixtures	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.
Substances and mixtures which, in contact with water, emit flammable gases	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).
Organic peroxides	These products may cause a fire or explosion if heated.
Corrosive to metals	These products may be corrosive (chemically damage or destroy) to metals.
Combustible dust	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.
Simple asphyxiants	These products are gases that may displace 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 must have the characteristic of occurring by chemical reaction and result in the serious injury or death of a person at the time the reaction occurs. If a product is classified in this class, the hazard statement on the label and SDS will describe the nature of the hazard.

Main Concerns for Each Physical Health Class

Hazard Class	General Description
Acute toxicity	These products are fatal, toxic or harmful if inhaled, following skin contact, or if swallowed. Acute toxicity refers to effects occurring following skin contact or ingestion exposure to a single dose, or multiple doses given within 24 hours, or an inhalation exposure of 4 hours. Acute toxicity could result from exposure to the product itself, or to a product that, upon contact with water, releases a gaseous substance that is able to cause acute toxicity.
Skin corrosion/irritation	This class covers products that cause severe skin burns (i.e., corrosion) and products that cause skin irritation.
Serious eye damage/eye irritation	This class covers products that cause serious eye damage (i.e., corrosion) and products that eye irritation.
Respiratory or skin sensitization	A respiratory sensitizer is a product that may cause allergy or asthma symptoms or breathing difficulties if inhaled. 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 (permanent

	changes (mutations) to body cells that can be passed on to future generations).
Carcinogenicity	This hazard class includes products that may cause or are suspected of causing cancer.
Reproductive toxicity	This hazard class includes products that may damage or are suspected of damaging fertility or the unborn child (baby). Note: There is an additional category which includes products that may cause harm to breast-fed children.
Specific target organ toxicity – single exposure	This hazard class covers products that cause or may cause damage to organs (e.g., liver, kidneys, or blood) following a single exposure. This class also includes a category for products that cause respiratory irritation or drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	This hazard class covers products that cause or may cause damage to organs (e.g., liver, kidneys, or blood) following prolonged or repeated exposure.
Aspiration hazard	This hazard class is for products that may be fatal if they are swallowed and enter the airways.
Biohazardous infectious materials	These materials are microorganisms, nucleic acids or proteins that cause or is a probably cause of infection, with or without toxicity, in humans or animals.
Health hazards not otherwise classified	This class covers products that are not included in any other health hazard class. These hazards have the characteristic of occurring following acute or repeated exposure and have an adverse effect on the health of a person exposed to it - including an injury or resulting in the death of that person. If a product is classified in this class, the hazard statement will describe the nature of the hazard.

How will I know what hazard class or category is assigned to a hazardous product?

Suppliers must evaluate products that are covered by the *Hazardous Products Act* against specific criteria as required by the *Hazardous Products Regulations*. If the product meets any of the criteria for a hazard class, it is known as a hazardous product. All hazardous products must be labelled according to the regulations, and must have a corresponding Safety Data Sheet (SDS). The hazard class and category will be provided in Section 2 (Hazard Identification) of the SDS. Each hazard class or category must use specific pictograms and other label elements to indicate the hazard that is present, and what precautionary measures must be taken. Use the information provided by the label and SDS to be informed and to know how to safely use, handle, store and dispose of the hazardous product.

PICTOGRAM

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.

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).

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.

The graphic below shows hazard pictograms. The bold type is the name given to the pictogram; the words in the brackets describe the hazard.

Pictogram Names

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

Pictogram	Name and Description	Hazard Class and Category
	Flame - For Fire Hazards	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)

	<p>Flame Over Circle – For Oxidizing Hazards</p>	<p>Oxidizing gases (Category 1) Oxidizing liquids (Category 1, 2 and 3) Oxidizing solids (Category 1, 2 and 3)</p>
	<p>Gas Cylinder - For Gases Under Pressure</p>	<p>Gases under pressure (Compressed gas, Liquefied gas, Refrigerated liquefied gas, and Dissolved gas)</p>
	<p>Corrosion – For Corrosive Damage to Metals as well as Skin or Eyes</p>	<p>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)</p>
	<p>Exploding Bomb – For Explosion or Reactivity Hazards</p>	<p>Self-reactive substances and mixtures (Types A and B*) Organic peroxides (Types A and B*)</p>
	<p>Skull and Crossbones – Can Cause Death or Toxicity with Short Exposure to Small Amounts</p>	<p>Acute toxicity - Oral (Category 1, 2 and 3) Dermal (Category 1, 2 and 3) Inhalation (Category 1, 2 and 3)</p>
	<p>Health Hazard – May Cause or Suspected of Causing Serious Health Effects</p>	<p>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)</p>

	<p>Exclamation Mark – May Cause Less Serious Health Effects or Damage Ozone Layer</p>	<p>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)</p>
	<p>Environment ** - May Cause Damage to the Aquatic Environment</p>	<p>Acute hazards to the aquatic environment (Category 1) Chronic hazards to the aquatic environment, (Categories 1, 2)</p>
	<p>Biohazardous Infectious Materials - For Organisms or Toxins that Can Cause Diseases in People or Animals</p>	<p>Biohazardous Infectious Materials (Category 1)</p>

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

** The GHS system 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 in labels and Safety Data Sheets (SDS) . Including information about environmental hazards is allowed by WHMIS 2015.

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.

WHMIS 2015 classes and categories that do not require a pictogram

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

SAFETY DATA SHEETS

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.

Information on a SDS

The *Hazardous Products Regulations* specifies the sections and content for the SDS, as follows:

SDS Section and Heading	Specific Information Elements
1 Identification	<ul style="list-style-type: none"> • Product identifier (e.g. Product name) • Other means of identification (e.g. product family, synonyms, etc.) • Recommended use • Restrictions on use • Canadian supplier identifier+ <ul style="list-style-type: none"> ○ Name, full address and phone number(s) • Emergency telephone number and any restrictions on the use of that number, if applicable
2 Hazard identification	<ul style="list-style-type: none"> • Hazard classification (class, category) of substance or mixture or a description of the identified hazard for Physical or Health Hazards Not Otherwise Classified • Label elements: <ul style="list-style-type: none"> ○ Symbol (image) or the name of the symbol (e.g., flame, skull and crossbones) ○ Signal word ○ Hazard statement(s) ○ Precautionary statement(s) • Other hazards which do not result in classification (e.g., molten metal hazard)
3 Composition/Information on ingredients	<ul style="list-style-type: none"> • When a hazardous product is a material or substance: <ul style="list-style-type: none"> ○ Chemical name ○ Common name and synonyms ○ Chemical Abstract Service (CAS) registry number and any unique identifiers ○ Chemical name of impurities, stabilizing solvents and/or additives* • For each material or substance in a mixture that is classified in a health hazard class**: <ul style="list-style-type: none"> ○ Chemical name ○ Common name and synonyms ○ CAS registry number and any unique identifiers ○ Concentration <p>NOTE: Confidential business information rules can apply</p>
4 First-aid measures	<ul style="list-style-type: none"> • First-aid measures by route of exposure: <ul style="list-style-type: none"> ○ Inhalation ○ Skin contact ○ Eye contact ○ Ingestion • Most important symptoms and effects (acute or delayed) • Immediate medical attention and special treatment, if necessary
5 Fire-fighting measures	<ul style="list-style-type: none"> • Suitable extinguishing media • Unsuitable extinguishing media • Specific hazards arising from the hazardous product (e.g., hazardous combustion products) • Special protective equipment and precautions for fire-fighters
6 Accidental release measures	<ul style="list-style-type: none"> • Personal precautions, protective equipment and emergency procedures • Methods and materials for containment and cleaning up
7 Handling and storage	<ul style="list-style-type: none"> • Precautions for safe handling • Conditions for safe storage (including incompatible materials)
8 Exposure controls/ Personal protection	<ul style="list-style-type: none"> • Control parameters, including occupational exposure guidelines or biological exposure limits and the source of those values • Appropriate engineering controls • Individual protection measures (e.g. personal protective equipment)
9 Physical and chemical properties	<ul style="list-style-type: none"> • Appearance (physical state, colour, etc.) • Odour • Odour threshold • pH • Melting point/Freezing point • Initial boiling point/boiling range • Flash point • Evaporation rate • Flammability (solid; gas) • Lower flammable/explosive limit

		<ul style="list-style-type: none"> • Upper flammable/explosive limit • Vapour pressure • Vapour density • Relative density • Solubility • Partition coefficient - n-octanol/water • Auto-ignition temperature • Decomposition temperature • Viscosity
10	Stability and reactivity	<ul style="list-style-type: none"> • Reactivity • Chemical stability • Possibility of hazardous reactions • Conditions to avoid (e.g., static discharge, shock, or vibration) • Incompatible materials • Hazardous decomposition products
11	Toxicological information	<p>Concise but complete description of the various toxic health effects and the data used to identify those effects, including:</p> <ul style="list-style-type: none"> • Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact) • Symptoms related to the physical, chemical and toxicological characteristics • Delayed and immediate effects, and chronic effects from short-term and long-term exposure • Numerical measures of toxicity
12	Ecological information***	<ul style="list-style-type: none"> • Ecotoxicity • Persistence and degradability • Bioaccumulative potential • Mobility in soil • Other adverse effects
13	Disposal considerations***	Information on safe handling for disposal and methods of disposal, including any contaminated packaging
14	Transport information***	<ul style="list-style-type: none"> • UN number • UN proper shipping name • Transport hazard class(es) • Packing group • Environmental hazards • Transport in bulk, if applicable • Special precautions
15	Regulatory information***	Safety, health and environmental regulations specific to the product
16	Other information	Date of the latest revision of the SDS

+The supplier that must be identified on an SDS is the initial supplier identifier (i.e., the name, address and telephone number of either the Canadian manufacturer or the Canadian importer). There are two exceptions to this requirement. In a situation where a hazardous product is being sold by a distributor, the distributor may replace the name, address and telephone number of the initial supplier with their own contact information. In a situation where an importer imports a hazardous product for use in their own workplace in Canada (i.e., the importer is not selling the hazardous product), the importer may retain the name, address and telephone number of the foreign supplier on the SDS instead of replacing it with their own contact information.

*These impurities and stabilizing products are those that are classified in a health hazard class and contribute to the classification of the material or substance.

**Each ingredient in the mixture must be listed when it is classified in a health hazard class and is present above the concentration limit that is designated for the hazard class in which it is classified or is present in the mixture at a concentration that results in the mixture being classified in any health hazard class.

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

What does "not available" or "not applicable" mean when I see these on the SDS?

With the exception of Sections 12-15, the supplier is required to provide information on each specific information element required on the SDS. In some cases, it may be appropriate for the supplier to state "not available" or "not applicable" instead of providing the specific information.

- "Not available" means that the information could not be located or does not exist. For example, if the supplier cannot locate any studies that measure the odour threshold, which is reported in Section 9 of the SDS, the supplier would report "not available".
- "Not applicable" means that the information element is not relevant. For example, if the product is odourless, then the odour threshold would be reported as "Not applicable".

Note that the supplier should not use the abbreviation "n.a." or "NA" without defining it, as it could mean "not applicable" or "not available" or something entirely different.

As an Assignment Employee, when would I use an 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.

WHMIS 2015 Assessment

Name: _____ Date: _____

After you have watched the video and/or made reference to the material, please answer the questions below. When you are finished, print your name and return the questionnaire to the administrator. We hope the knowledge you have gained from this WHMIS awareness program will help you to work safely.

1) What are the two different types of WHMIS 2015 labels used in the workplace?

a. _____ b. _____

2) What are the 4 main components of WHMIS 2015?

a. _____ b. _____ c. _____ d. _____

3) Examples of hazard classes include:

- Self-heating Substances and Mixtures
- Oxidizing Liquids
- Flammable Gases
- All of the Above








4) Under WHMIS 2015, Material Data Safety Sheet (MSDS) are called Safety Data Sheet (SDS).



True False

5) Safety Data Sheets (SDSs) have 16 sections instead of the 9 sections found in Material Safety Data Sheets (MSDSs) under WHMIS 1988.

True False

6) Please match the pictogram with the appropriate name and description:

Pictogram	Corresponding Letter	Name and Description
		(A) Health Hazard - May Cause or Suspected of Causing Serious Health Effects
		(B) Gas cylinder - For Gases Under Pressure
		(C) Bio hazardous Infectious Materials - For Organisms or Toxins that Can Cause Diseases in People or Animals
		(D) Exclamation Mark - May Cause Less Serious Health Effects or Damage the Ozone Layer
		(E) Flame - For Fire Hazards
		(F) Corrosion - For Corrosive Damage to Metals, as well as Skin, and Eyes
		(G) Exploding Bomb - For Explosion or Reactivity Hazards

		(H) Flame Over Circle - For Oxidizing Hazards
		(I)Skull and Crossbones - Can Cause Death or Toxicity with Short Exposure to Small Amounts

Using the label for Product K1 (see attached), complete the following questions:

- 7) Indicate which of the following information must be on a Supplier label under WHMIS 2015:
- | | | |
|--|---|--|
| <input type="checkbox"/> Product Identifier | <input type="checkbox"/> Supplemental Label Information | <input type="checkbox"/> Precautionary Statement |
| <input type="checkbox"/> Hazard Statement | <input type="checkbox"/> 911 phone number | <input type="checkbox"/> Signal Word |
| <input type="checkbox"/> Initial Supplier Identifier | <input type="checkbox"/> The date the product was shipped | <input type="checkbox"/> Pictogram (s) |
- 8) What are the pictogram(s) found on this label?
- Skull and Crossbones - Can cause death or toxicity with short exposure to small amounts
 - Exclamation Mark – May cause less serious health effects or damage the ozone layer
 - Corrosion - For damage to metals as well skins, and eyes
 - Gas Cylinder – For gases under pressure
- 9) What is the signal word found on this label?
- Danger
 - Fatal
 - Warning
 - Irritation
- 10) Are the hazard statement(s) found on this label Fatal if swallowed and Causes skin irritation?
- True False
- 11) Name one of the precautionary statements listed on the label.

Reviewed By: _____ Date: _____

Supplier Label

Product K1 / Produit K1



Danger

Fatal if swallowed.
Causes skin irritation.

Precautions:

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

Store locked up.
Dispose of contents/containers in
accordance with local regulations.

IF ON SKIN: Wash with plenty of water.
If skin irritation occurs: Get medical
advice or attention.
Take off contaminated clothing and
wash it before reuse.
IF SWALLOWED: Immediately call
a POISON CENTRE or doctor.
Rinse mouth.

Danger

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

Conseils :

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










Garder sous clef.
Éliminer le contenu/récipient conformément aux
règlements locaux en vigueur.

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

Compagnie XYZ, 123 rue Machin St, Mytown, ON, N0N 0N0 (123) 456-7890

ANSWER SHEET - ASSESSMENT WHMIS 2015 SYMBOLS

Please review the WHMIS 2015 symbols below and write in the column next to it the name and a description of the hazard associated with the symbol.













WHMIS 2015 Symbols	Name/Description of Hazard	WHMIS 2015 Symbols	Name/Description of Hazard
	<u>Gas cylinder</u> - For Gases Under Pressure		<u>Exclamation Mark</u> - May Cause Less Serious Health Effects or Damage the Ozone Layer
	<u>Flame</u> - For Fire Hazards		<u>Corrosion</u> - For Corrosive Damage to Metals, as well as Skin, and Eyes
	<u>Flame Over Circle</u> - For Oxidizing Hazards		<u>Exploding Bomb</u> - For Explosion or Reactivity Hazards
	<u>Skull and Crossbones</u> - Can Cause Death or Toxicity with Short Exposure to Small Amounts		<u>Health Hazard</u> - May Cause or Suspected of Causing Serious Health Effects
	<u>Biohazardous Infectious Materials</u> - For Organisms or Toxins that Can Cause Diseases in People or Animals		

ASSESSMENT WHMIS 2015 SYMBOLS

Please review the WHMIS 2015 symbols below and write in the column next to it the name and a description of the hazard associated with the symbol.

WHMIS 2015 Symbols	Name/Description of Hazard	WHMIS 2015 Symbols	Name/Description of Hazard

PICTOGRAMS - WHMIS 1998 vs. WHMIS 2015

WHMIS 1998 Hazard Class	WHMIS 1998 Symbol	WHMIS 2015 Symbols (s)	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 2015 Checklist

I have reviewed the training material and understand the following:

WHMIS 2015	
<input type="checkbox"/>	Safety Data Sheets (SDS)
<input type="checkbox"/>	16 Sections on the SDS
<input type="checkbox"/>	2 Types of Labels (Supplier, & Workplace)
<input type="checkbox"/>	4 Main Components of WHMIS 2015
<input type="checkbox"/>	10 WHMIS 2015 Pictograms
<input type="checkbox"/>	2 Hazard Groups (Physical & Health)

Supplier/Manufacturer Will:

- Classify all controlled products
- Provide up to date SDS
- Provide Supplier Labels

Client Site Will:

- Provide "Workplace Specific WHMIS" training on specific hazards in your work area and the specific procedures to be followed for the safe use, storage, handling, disposal, fugitive emissions and emergencies of controlled products you work with.
- Develop safe working procedures for all assignment employees
- Ensured that SDSs are accurate, up to date and available
- Provided workplace labels as required
- Ensure all controlled products have an appropriate label (Supplier, Workplace or Laboratory)

Employer Will:

- Provided all assignment employees with regular WHMIS training

I Will:

- Participate and apply knowledge received in training
- Recognize and understand the hazard symbol on the label
- Know what precautions to take when working with a product
- Know the safety procedures if there is an incident involving the controlled product
- Work safely with hazardous materials
- Know and understand information found on labels and SDS'
- Comply with established work procedures with respect to working with hazardous materials
- Follow label directions or posted procedures
- Use the right product at the right concentration
- Not mix chemicals unless the SDS says it is safe
- Label all Secondary Containers with a workplace label
- Never use products in unmarked containers
- Know the location of SDS and how to read them
- Notify my employer if labels or SDS are out of date, inaccurate, missing or illegible.
- Use the required Personal Protective Equipment when working with a controlled product
- Ask my supervisor if I need more information

Assignment Employee: _____ Date: _____