

# WHMIS PROGRAM

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## 1.0 PURPOSE

Workplace Hazardous Materials Information System (WHMIS) is incorporated into the Occupational Health and Safety Act and is law in the province of Ontario. This legislation states that when working with, or in proximity to hazardous products, the employer must make every reasonable effort to ensure that the information needed to work safely with those products is available and understood.

## 2.0 SCOPE

This program applies to all personnel associated with the University of Waterloo and includes all workers and students who handle or use hazardous products as part of their work or studies.

## 3.0 DEFINITIONS

### Student

A student is someone, whether part-time or full-time, attending classes as part of an undergraduate or graduate program.

### Worker

A worker is any one of the following regardless of whether compensation is given:

- Regular full/part-time
- Casual staff
- Contract staff
- Research assistants
- Teaching assistants
- Faculty
- Visiting scholars and post-docs
- Unpaid learners and volunteers

### Complete list of terms

See section [7.0 Glossary](#) for a complete list of terms used in this program.

## 4.0 ROLES AND RESPONSIBILITIES

### 4.1 UNIVERSITY OF WATERLOO

- Create, administer and review the WHMIS 2015 program.
- Educate and provide training to workers on the hazards and safe use of products.
- Ensure appropriate control measures are in place to protect the health and safety of workers.

### 4.2 SUPERVISOR/MANAGER

- Workers must be competent to store, handle and dispose of the hazardous products they work with. This includes what to do in emergency situations such as spills or exposure to hazardous materials. To do this the supervisor/manager must

- Confirm that workers and students complete the University's WHMIS 2015 online module.
- Provide specific training on the storage, handling, use, disposal and emergency procedures for the hazardous products they work with
- Update label for any hazardous products that are not currently compliant with WHMIS requirements that are stored or used in the laboratory
- Maintain and provide access to students and lab workers to the Chemical Inventory System database.
- Populate the Chemical Inventory System with up-to-date SDSs for all hazardous materials currently stored or used in the laboratory. At minimum, the chemical inventory for research areas must be updated once per year.

### 4.3 WORKERS AND STUDENTS

- Participate in the education and training programs on hazardous products.
- Follow storage, handling and use guidelines outlined by the University of Waterloo with respect to hazardous products.
- Take necessary steps to protect themselves and their co-workers.
- Participate in identifying and eliminating risks.
- Prepare workplace/laboratory labels as needed.

### 4.4 SAFETY OFFICE

- Create, administer and maintain the WHMIS 2015 program.
- Administer online access to the Chemical Inventory System (RSS) for UW.

### 4.5 JOINT HEALTH & SAFETY COMMITTEE WORKER MEMBERS

- Review the WHMIS 2015 program annually.

## 5.0 PROCEDURES

### 5.1 LABELS

#### 5.1.1 SUPPLIER LABEL

Supplier labels are attached by the supplier and must contain the following information:

- **Product identifier** is the brand name, chemical name, common name, generic name or trade name of the hazardous product.
- **Initial supplier identifier** is the name, address and telephone number of either the Canadian manufacturer or the Canadian importer.
- **Pictograms** are hazard symbols within a red "square set on one of its points".











- **Signal words** are words used to alert the reader to a potential hazard and to indicate the severity of the hazard.
- **Hazard statements** are standardized phrases that describe the nature of the hazard posed by a hazardous product.
- **Precautionary statements** are standardized phrases that describe measures required to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper handling or storage of a hazardous product.
- **Supplemental label information** is information required based on the classification of the product.

For example, the label for a mixture containing ingredients with unknown toxicity in amounts higher than or equal to 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.

### 5.1.2 WORKPLACE LABEL

Workplace labels must be updated as soon as practicable after a supplier provides significant new data to the employer. These labels must be placed on secondary containers when decanted from supplier containers and must contain the following:

- A product name matching the product name on the SDS or original supplier label
- Safe-handling precautions (may include pictograms or other supplier label details)
- A reference to the SDS

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

\* 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 on labels and Safety Data Sheets (SDSs). Including information about environmental hazards is allowed by WHMIS 2015.

**Figure 1: WHMIS 2015 symbols**

## 5.2 HAZARD CLASSES

Situations WHMIS introduces a new system for classifying hazardous products. There are at least three possible levels of classification for an individual product. Moving from the most general classification to more specific ones, these levels are:

- Hazard “group”
- Hazard “class”
- Hazard “category”
- Hazard “subcategory” (in some cases)

There are two broad hazard groups:

- Physical hazards
- Health hazards

Products in the physical hazards group are classified based on characteristics such as flammability or reactivity. Health hazards are grouped based on their ability to cause a health effect, such as cancer or skin irritation. Both groups are divided into classes of materials with similar properties. There are 19 distinct classes in the physical hazards group and 12 classes in the health hazards group.

Classes in the Physical Hazards Group are:

- |  |  |
|--|--|
| ▪ Flammable gases (including pyrophoric gases and chemically unstable gases) | ▪ Self-heating substances and mixtures                                       |
| ▪ Aerosols   | ▪ Substances and mixtures which, in contact with water, emit flammable gases |
| ▪ Oxidizing gases  | ▪ Oxidizing liquids  |
| ▪ Gases under pressure   | ▪ Oxidizing solids   |
| ▪ Chemicals under pressure   | ▪ Organic peroxides  |
| ▪ Flammable liquids  | ▪ Corrosive to metals  |
| ▪ Flammable solids   | ▪ Combustible dusts*   |
| ▪ Self-reactive substances and mixtures                                      | ▪ Simple asphyxiants*  |
| ▪ Pyrophoric liquids   | ▪ Physical hazards not otherwise classified*                                 |
| ▪ Pyrophoric solids  |  |

Classes in the Health Hazard Group are:

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| ▪ Acute toxicity                    | ▪ Respiratory or skin sensitization |
| ▪ Skin corrosion/irritation         | ▪ Germ cell mutagenicity            |
| ▪ Serious eye damage/eye irritation | ▪ 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\*

\* These hazard classes are part of WHMIS but are not part of the GHS.

Most hazard classes are divided into categories and subcategories based on the severity of the hazard. A number identifies most categories and a number and letter identify most subcategories. The lower the category number, the more severe the hazard, for example, a product classified as a Flammable Liquid-Category 1 is more hazardous than a Flammable Liquid-Category 2.

### 5.3 SAFETY DATA SHEETS (SDS)

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

Every SDS must have 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 previous SDS of the same product.

SDSs provide more detailed hazard information about the product than the label. They are an important resource for workplaces and workers to help educate more about the product(s) used. This information is used to identify the hazards of the products used and to protect users from those hazards. It also included safe handling and emergency measures.

SDSs tell users:

- Section 1: Product Identifier. Provides the name of the product.
- Section 2: Hazard Identification. Lists the hazardous ingredients of the product.
- Section 4, 5, 6: What to do in an emergency, first aid, fire fighting measures, and accidental release measures.
- Section 7: Handling and Storage. How to work with the product safely

Every WHMIS hazardous product in your work/study area must have an associated SDS readily available. An SDS may be kept in either hard (i.e. paper) or soft (i.e. electronic) format as appropriate, with the following requirements.

- **Hard copies** must be visible and accessible at all times. Do not keep SDSs in locked cabinets/rooms/desks.

- **Soft/Electronic copies:** for softcopies to be accepted, all users in the area must be able to demonstrate they can access the online chemical inventory in order to view an SDS.

## 5.4 WASTE DISPOSAL AND HAZARDOUS MATERIAL SPILLS

Supervisors are responsible for implementing work area specific procedures. There are however, some procedures related to WHMIS that are university wide. Specifically, what to do with hazardous waste products and what to do in the event of a spill of a hazardous product that is beyond the ability of the user to handle safely.

### 5.4.1 HAZARDOUS WASTE DISPOSAL

Under the WHMIS regulations, hazardous waste is exempt from the requirements of having a supplier or workplace label and an SDS. It is not exempt from the training requirements. Supervisors or lab instructors are required to outline how to properly dispose of waste hazardous products. General university wide instructions for disposal can be found in the University's [Hazardous Waste Standard](#).

All workers that generate or dispose of hazardous waste must complete the online Chemical Waste Segregation training module.

**It is extremely important to follow disposal instructions.** University of Waterloo requires that special labels are placed on every container of hazardous waste. Questions regarding hazardous waste disposal or requests to obtain hazardous waste labels can be directed to the ESF technician at ext. 35755.

All chemical, biological and radioactive wastes are to be disposed of at the Environmental Safety Facility (ESF) located in the Earth Sciences and Chemistry building.

View the [ESF pick-up schedule](#).

### 5.4.2 HAZARDOUS WASTE LABELS

All hazardous waste must be labelled with a Waterloo Hazardous Waste Label or a Chemical Waste Label. These labels are available from the Environmental Safety Facility or the Safety Office.

### 5.4.3 HAZARDOUS MATERIAL SPILLS

- Supervisors are responsible for providing spill kits specific to the materials in their lab.
- Areas where hazardous materials are present must display University's hazardous materials spill poster. Contact the Safety Office at x33587 for a poster or download it from the [Safety Office website](#).
- The University's hazardous spill procedures are posted on the Safety Office's [hazardous material spills page](#).

## 6.0 TRAINING

WHMIS 2015 makes a distinction between education and training. Education generally refers to what is WHMIS and how it works. This includes learning about the hazard classes and corresponding pictograms. This also includes learning about the various labelling requirements, such as supplier, workplace and laboratory labels and what information can be expected on each label. For this reason, all workers and students must complete the online WHMIS 2015 module that is available on LEARN. The online module is valid for 5 years and needs renewal at the end of this time. If someone demonstrates a lack of understanding in basic WHMIS principles, they may be required to complete the online module before the 5-year period ends.

Training refers to the specific procedures in each department for the storage, handling, use, disposal, emergencies, locations of SDSs and spills for hazardous materials. Supervisors or lab demonstrators deliver this training before anyone uses a hazardous material for the first time. Training renewal does not have a specific time period or expiry date. If any of the following occurs, re-training will be required.

- Someone demonstrates a lack of understanding or knowledge about WHMIS.
- Conditions in the workplace change.
- New products are introduced.
- Products have changed and now have different hazards.
- New hazard information becomes available.
- There is new information about safe use, handling, storage or disposal.

## 7.0 GLOSSARY

### **Acute toxicity**

Hazardous products classified in this hazard class cause fatal, toxic or harmful effects if swallowed, in contact with skin and/or if inhaled. Acute toxicity refers to adverse effects following:

- Oral (swallowing) or dermal (skin) administration of a single dose, or multiple doses given within 24 hours.
- Inhalation exposure of 4 hours or of a duration that is converted to four hours.

Acute inhalation toxicity could result from exposure to the hazardous product itself, or to a product that, upon contact with water, releases a gaseous substance that is able to cause acute toxicity. See “LC50” and “LD50”.

### **Aerosol**

A mixture to which a propellant has been added and that is contained in an aerosol dispenser. Hazardous products in this hazard class include "foam aerosol" or "spray aerosol":

"Foam aerosol" means the content that is dispensed from an aerosol dispenser having a spray distance of less than 15 cm and that is in the form of a foam, mousse, gel or paste.

"Spray aerosol" means the content that is dispensed from an aerosol dispenser and that is not a foam aerosol.

### **Asphyxiant**

See Simple asphyxiants.

### **Aspiration hazards**

Hazardous products classified in this hazard class may be fatal if the hazardous product is swallowed and enters the airways. Aspiration toxicity includes severe acute effects, such as chemical pneumonia, varying degrees of pulmonary injury or death, following the entry of a liquid or solid directly through the mouth or nose, or indirectly from vomiting, into the trachea and lower respiratory system.

### **Biohazardous infectious materials**

Hazardous products that are classified in this hazard class are microorganisms, nucleic acids or proteins that cause or are a probable cause of infection, with or without toxicity, in humans or animals.

### **Carcinogenicity**

Hazardous products classified in this hazard class may cause cancer or are suspected of causing cancer. These products are liable to lead to cancer or increase the incidence of cancer.

### **Chemically Unstable Gases**

A flammable gas that is liable (likely) to react explosively even in the absence of air or oxygen.

### **Chemicals Under Pressure**

Relates to hazardous products that are liquids or solids that are packaged in a receptacle (other than an aerosol dispenser) and that are pressurized with a gas at a gauge pressure of 200 kPa or more at 20°C. This hazard class excludes any gas under pressure as defined by the *Hazardous Products Act* and regulations.

### **Combustible dusts**

Hazardous products classified in this hazard class may form combustible dust concentrations in air. These products are in the form of finely divided solid particles that, upon ignition, are liable to catch fire or explode when dispersed in air.

### **Corrosive to metals**

Hazardous products classified in this hazard class are liable to damage or destroy metal by chemical action.

## **Eye irritation**

Hazardous products classified for Eye irritation, as part of the Serious eye damage/eye irritation hazard class, produce changes in the eye which are fully reversible within 21 days. Effects could include redness, itching or swelling.

## **Exposure limits**

The airborne concentration of a substance that must not be exceeded in workplace air. Exposure limits have various names and often have different numerical values in different jurisdictions. In most Canadian provinces and territories, the exposure limits are called Occupational Exposure Limits (OELs). (See also “Control parameters” and “Threshold limit values (TLV®s)”.)

There are three different types of exposure limits in common use:

- **Time-weighted average (TWA)**

Exposure limit is the time-weighted average concentration of a chemical in air for up to 10 hours a day, 40 hours a week, to which nearly all workers may be exposed day after day without harmful effects. “Time-weighted average” means that the average concentration has been calculated using the duration of exposure to different concentrations of the chemical during a specific time period (usually 8 hours). In this way, higher and lower exposures are averaged over the day or week.

- **Short-term exposure limit (STEL)**

The average concentration to which workers can be exposed for a short period (usually 15 minutes) without harmful effects. ACGIH specifically defines the harmful effects as irritation, long-term or irreversible tissue damage, reduced alertness or other toxic effects. The number of times the concentration reaches the STEL and the amount of time between these occurrences can also be restricted.

- **Ceiling (C)**

The concentration which should not be exceeded at any time.

## **First-aid measures**

The initial care that can be given by an untrained responder to a person who is experiencing symptoms of exposure to the product.

## **Flammable gases**

Hazardous products classified in this hazard class are gases that have a flammable range when mixed with air (at 20 deg C and 101.3 kPa).

## **Flammable liquids**

Hazardous products classified in this hazard class are liquids that have a flash point of not more than 93 deg C.

### **Flammable solids**

Hazardous products classified in this hazard class are readily combustible solids or solids that are liable to cause or contribute to fire through friction. A “readily combustible solid” means a powdered, granular or pasty hazardous product that can be easily ignited by brief contact with an ignition source and, when ignited, has a flame that spread rapidly.

### **Fugitive emission**

A gas, liquid or solid, vapour, fume, mist, fog or dust that escapes from process equipment or from emission control equipment or from a product where workers may be readily exposed to it.

### **Gases under pressure**

Hazardous products classified in this hazard class are compressed gases, liquefied gases, dissolved gases, or refrigerated liquefied gases. Compressed gases, liquefied gases and dissolved gases may explode if heated. Refrigerated liquefied gases may cause cryogenic (severe cold) burns or injury.

These products consist of a gas and can be any of the following:

- Contained in a receptacle under a pressure of 200 kPa or more at 20 deg C.
- That is liquefied, or liquefied and refrigerated, but excludes any gas that has an absolute vapour pressure of not more than 300 kPa at 50 deg C.
- That is not completely gaseous at 20 deg C and 101.3 kPa.

### **Germ cell mutagenicity**

Hazardous products classified in this hazard class may cause or are suspected of causing genetic defects. These products are liable lead to an increased occurrence of mutations in the germ (reproductive) cells.

### **Hazard class**

A way of grouping products together that have similar hazards or properties.

### **Hazard category**

The subdivision within a hazard class identifies how hazardous the product is (the severity of hazard). Category 1 is always the greatest level of hazard (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.

### **Hazard classification**

The hazard class and category assigned to a hazardous product based on the comparison of the properties of the hazardous product with the criteria for each hazard class in the HPR.

### **Hazard statement**

A required phrase assigned to a category or subcategory of a hazard class that describes the nature of the hazard presented by a hazardous product.

**Hazardous product**

A product, mixture, material or substance that meets the criteria to be classified in one or more of the hazard classes of the HPR.

**Hazardous waste**

A hazardous product that is sold for recycling or recovery or is intended for disposal.

**Health hazards not otherwise classified (HHNOC)**

Hazardous products classified in this hazard class have a health hazard that is different from any other health hazard addressed in the HPR. These hazards must have the characteristic of occurring following acute or repeated exposure and having 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 hazard class, the hazard statement on the label and SDS will describe the nature of the hazard.

**Initial supplier identifier**

The name, address and telephone number of the manufacturer or the importer of the hazardous product who operates in Canada.

**Label**

A group of written, printed or graphic information elements that relate to a hazardous product. The label is to be affixed to, printed on or attached to the hazardous product or the container in which the hazardous product is packaged.

**Laboratory sample**

A sample of a hazardous product that is packaged in a container that contains less than 10 kg of the hazardous product and that is intended solely to be tested in a laboratory. The definition of laboratory sample does NOT include a sample that is to be used for either of the following:

- By the laboratory for testing other products, mixtures, materials or substances.
- For educational or demonstration purposes.

**Manufacturer**

A supplier who, in the course of business in Canada, manufactures, produces, processes, packages or labels a hazardous product and sells it.

**Organic peroxides**

Hazardous products classified in this hazard class are reactive and may cause a fire or explosion if heated. Organic peroxide means an organic (carbon containing) liquid or solid that contains two oxygen atoms joined together (the bivalent -O-O structure).

**Oxidizing gases, Oxidizing liquids, or Oxidizing solids**

Hazardous products classified in these hazard classes may cause or intensify a fire, or cause a fire or explosion. Oxidizing gases are liable to cause or contribute to the combustion of other material more than air does. Oxidizing liquids and Oxidizing solids are liable to cause or contribute to the combustion of other material.

### **Physical hazards not otherwise classified (PHNOC)**

Hazardous products classified in this hazard class present a physical hazard that is different from any other physical hazard addressed in the HPR. These hazards must have the characteristic of occurring by chemical reaction and resulting in the serious injury or death of a person at the time the reaction occurs. If a product is classified in this hazard class, the hazard statement on the label and SDS will describe the nature of the hazard.

### **Pictogram**

A graphical composition that includes a symbol along with other graphical elements, such as a border or background colour.

### **Precautionary statement**

A phrase that describes the recommended measures to take in order to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper storage or handling of a hazardous product.

### **Product identifier**

The brand name, chemical name, common name, generic name or trade name of a hazardous product.

### **Pyrophoric gases, Pyrophoric liquids, or Pyrophoric solids**

Hazardous products classified in these hazard classes can catch fire spontaneously (very quickly) if exposed to air. Pyrophoric liquids and Pyrophoric solids are liable to ignite within five minutes after coming into contact with air. Pyrophoric gases are liable to ignite spontaneously in air at a temperature of 54 deg C or less.

### **Reproductive toxicity**

Hazardous products classified in this hazard class may damage or are suspected of damaging fertility and/or the unborn child (baby). This hazard class has an additional category for products that may cause harm to breast-fed children. Reproductive toxicity refers to:

- Adverse effects on sexual function and fertility.
- Adverse effects on the development of the embryo, fetus or offspring, or effects on or via lactation.

### **Safety Data Sheet (SDS)**

A document that contains specified, required information about a hazardous product, including information related to the hazards associated with any use, handling or storage of the hazardous product in a work place.

### **Self-heating substances and mixtures**

Hazardous products classified in this hazard class are products that may catch fire, or that may catch fire when in large quantities. These solid or liquid products are liable to self-heat by reaction with air and without energy supply. These products differ from

pyrophoric substances in that they will ignite only after a longer period of time or when in large amounts.

### **Self-reactive substances and mixtures**

Hazardous products classified in this hazard class may cause a fire or explosion if heated. These products are liable to undergo a strongly exothermic (producing heat and energy) decomposition, having a heat of decomposition equal to or greater than 300 J/g, even without participation of oxygen.

### **Serious eye damage/eye irritation**

See “Serious eye damage” and/or “Eye irritation”.

### **Serious eye damage**

Hazardous products classified for Serious eye damage, as part of the Serious eye damage/eye irritation hazard class, can produce tissue damage in the eye or serious physical decay of vision that is irreversible or not fully reversed within 21 days. Effects could include permanently impaired vision or blindness.

### **Signal word**

In respect of a hazardous product, the word “Danger” or “Warning” that is used to alert the reader of the product label or SDS to a potential hazard and to indicate its severity.

### **Significant new data**

Is new data regarding the hazard presented by a hazardous product and results in any of the following:

- A change in its classification in a category or sub-category of a hazard class.
- Results in its classification in another hazard class.
- Changes the ways to protect against the hazard presented by the hazardous product.

### **Simple asphyxiants**

Hazardous products classified in this hazard class may displace oxygen in air and cause rapid suffocation. These products are gases that are liable to cause asphyxiation by the displacement of air.

### **Skin corrosion/irritation**

See “Skin corrosion” and/or “Skin irritation”.

### **Skin corrosion**

Hazardous products classified for Skin corrosion, as part of the Skin corrosion/irritation hazard class, cause severe skin burns and eye damage. Skin corrosion means the production of irreversible damage to the skin, namely, visible necrosis (tissue death) through the epidermis and into the dermis (layers of the skin), and includes ulcers, bleeding, bloody scabs and, within a 14-day observation period, discolouration due to blanching of the skin, complete areas of alopecia (loss of hair), and scars.

### **Skin irritation**

Hazardous products that classify for Skin irritation, as part of the Skin corrosion/irritation hazard class, are liable to cause reversible damage to the skin. Effects could include redness, itching, or swelling.

### **Skin sensitizers**

Hazardous products that classify as Skin sensitizers, as part of the Respiratory or skin sensitization hazard class, may cause an allergic skin reaction. These products are liable to lead to an allergic response following skin contact.

### **Specific target organ toxicity (STOT) - Repeated exposure**

Hazardous products classified in this hazard class cause or may cause damage to organs (e.g., liver, kidneys or blood) following prolonged or repeated exposure to the product.

Specific target organ toxicity arising from repeated exposure means specific toxic effects on target organs that arise from repeated exposure to a hazardous product, including all health effects liable to impair function of the body or any of its parts, whether reversible or irreversible, immediate or delayed. This hazard class excludes health hazards addressed by the Acute toxicity, Skin corrosion/irritation, Serious eye damage/eye irritation, Respiratory or skin sensitization, Germ cell mutagenicity, Carcinogenicity, Reproductive toxicity or Aspiration hazard classes.

### **Specific target organ toxicity (STOT) - Single exposure**

Hazardous products classified in this hazard class cause or may cause damage to organs (e.g., liver, kidneys, or blood) following a single exposure to the product. This hazard class also includes a category for products that cause transient (temporary) respiratory irritation, or transient (temporary) drowsiness or dizziness.

Specific target organ toxicity arising from a single exposure to a hazardous product means specific, non-lethal toxic effects on target organs that arise from a single exposure to a hazardous product including all health effects liable to impair function of the body or any of its parts, whether reversible or irreversible, immediate or delayed. This hazard class excludes health hazards addressed by the Acute toxicity, Skin corrosion/irritation, Serious eye damage/eye irritation, Respiratory or skin sensitization, Germ cell mutagenicity, Carcinogenicity, Reproductive toxicity or Aspiration hazard classes.

### **Storage requirements**

Specific instructions to safely store the hazardous product and prevent hazardous conditions from developing during storage.

### **Substances and mixtures which, in contact with water, emit flammable gases**

Hazardous products in this hazard class react with water to release flammable gases. In some cases, the flammable gases may ignite spontaneously (very quickly). These

products are liquids and solids that, by interaction with water, are liable to become spontaneously flammable or give off flammable gases in dangerous quantities.

### **Supplier**

A person who, in the course of business, sells or imports a hazardous product.

### **WHMIS**

WHMIS stands for Workplace Hazardous Materials Information System. WHMIS is Canada's national hazard communication system for hazardous products in the work place. It applies to suppliers, importers, and distributors of hazardous products that are sold in or imported into Canada and intended for use, handling or storage in Canadian work places, as well as to the employers and workers who use those products.

### **WHMIS 2015**

On February 11, 2015, the Government of Canada published the *Hazardous Products Regulations* (HPR), which, in addition to the amendments made to the *Hazardous Products Act* (HPA), modified WHMIS 1988 to incorporate the GHS for workplace chemicals. This modified WHMIS is referred to as WHMIS 2015.

## **8.0 APPENDIX A: LABORATORY SAMPLES**

Under WHMIS 2015, the exemptions that previously applied to products originating from a laboratory supply house and intended for use in a laboratory have been eliminated. However, specific provisions for laboratory samples still exist. A laboratory sample is defined as “a sample of a hazardous product that is packaged in a container that contains less than 10 kg of the hazardous product and that is intended solely to be tested in a laboratory but does not include a sample that is to be used:

1. by the laboratory for testing other products, mixtures, materials or substances; or
2. for educational or demonstration purposes” (subsection 1(1), WHMIS Reg.).

### **Laboratory samples received from a supplier**

The federal HPR provides certain exemptions to suppliers respecting labels and SDSs for samples of hazardous products sent to a laboratory for analysis (i.e. possession of the sample has been transferred but not ownership). The employer at a laboratory receiving a sample of a hazardous product does not have to obtain a full supplier label if:

- The laboratory sample is exempt from labelling requirements under the HPR, and
- An abbreviated supplier label that discloses the following information is provided:
  1. The chemical name or generic chemical name, if known to the supplier, of every material or substance in the sample that,
    1. Individually, is classified in a category or subcategory of a hazard class listed in the Hazardous Products Act (Canada) and, is present

above the concentration limit designated for that category or subcategory, and

2. In a mixture, is present at a concentration that results in the mixture being classified in a category or subcategory of a hazard class.

The employer is not required to obtain a supplier SDS for a laboratory sample if the supplier is not required to prepare one (subsection 17(1), WHMIS Reg.). Under the HPR, a supplier is exempted from providing a SDS for a laboratory sample if:

- the chemical name and concentration of the hazardous product or its ingredients are unknown, or
- the hazardous product from which the sample originates has not been offered for sale (subsection 5(4), HPR).

In addition, if a laboratory sample is classified only as Biohazardous Infectious Material-Category 1, and possession but not ownership is transferred, the sample does not require a label or SDS (subsection 5(3), HPR).

### **If a lab sample is transferred or decanted from the supplier's original container**

No workplace label is required, but the employer must ensure that the lab sample is clearly identified through a combination of identification visible to workers and worker education. The combination of identification and education must enable lab workers handling the sample to readily identify and obtain either the information required on a SDS, if one has been prepared, or the labelling information required on an abbreviated supplier's label (section 15, WHMIS Reg.).

### **If a lab sample is produced in the employer's workplace**

No workplace label is required for a laboratory sample that is produced in the employer's workplace, but the employer must ensure that the sample is clearly identified through a combination of identification visible to workers and worker education. The identification and education must enable lab workers handling the sample to readily identify and obtain either the information required on a SDS, if one has been prepared, or the labelling information required on an abbreviated supplier's label (section 15, WHMIS Reg.).

No SDS is required for a hazardous product that is a laboratory sample produced by the employer at the workplace (subsection 18(2), WHMIS Reg.).

### **Hazardous product produced for research and development**

No workplace label is required on a hazardous product that is produced in a lab, not removed from the lab, and intended by the employer solely for research and development purposes. Instead the employer must ensure that the hazardous product is clearly identified through a combination of identification and education that enables workers to identify and obtain either the information required on a SDS, if one has been

prepared, or such other information as is needed for the safe use, storage and handling of the product (section 16, WHMIS Reg.).

## 9.0 RECORD OF REVISIONS

Date	Author/Editor	Change	Version
June 2025	Doug Dye	<ul style="list-style-type: none"> <li>Updated physical Hazard Groups to reflect new HPR</li> <li>Replaced references to CHEMWATCH with Chemical Inventory System</li> </ul>	WHMIS 2015 Program v.1.3 JUN2025
January 2022	Doug Dye	<ul style="list-style-type: none"> <li>No changes</li> </ul>	WHMIS 2015 Program v.1.2 JAN2022
January 2021	Doug Dye	<ul style="list-style-type: none"> <li>Updated Section 5.3 Safety Data Sheets</li> </ul>	WHMIS 2015 Program v.1.2 JAN2021
January 2020	Doug Dye	<ul style="list-style-type: none"> <li>Added section 8.0 Record of Revisions</li> <li>Changed controlled products to hazardous products</li> <li>Updated section 5.3 Safety Data Sheets</li> <li>Updated section 4.2 Supervisor/Manager (Roles and Responsibilities)</li> <li>Updated Section 4.4 Safety Office (Roles and Responsibilities)</li> <li>Wording changes in Section 5.4 Waste Disposal and Hazardous Material Spills</li> <li>Added section 5.4.2. Hazardous Waste Labels</li> <li>Updated Section 6.0 Training</li> <li>Amended section 7.0 Glossary</li> </ul>	WHMIS 2015 Program v.1.1 JAN2020
January 2019	Doug Dye	<ul style="list-style-type: none"> <li>Updates related to end of WHMIS 2015 Transition Period</li> <li>Added Appendix A: Laboratory Samples</li> </ul>	WHMIS 2015 Program v.1.0 DEC2018