

<b>Title:</b> <b>Post Exposure Protocol – Chemicals</b>	<b>Version:</b> 1
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<b>Signing Authority:</b> Delaine Russo, Director, Environmental Health and Safety Office	

## 1 Purpose

This document provides the required procedure for an exposure or potential exposure to chemicals while working and/or learning at the University of Manitoba to ensure urgent response for occupational exposures.

## 2 Scope

This procedure applies to all employees, students, and visitors who may have been exposed to chemicals while working and/or learning at the University of Manitoba.

## 3 Definitions

<b>Chemical</b>	Any product, mixture, material, or substance – other than biological substances – that meets the criteria to be classified in one or more hazard class in the Canadian <i>Hazardous Products Regulations</i> . This includes compressed gases, and flammable and combustible, oxidizing, poisonous, corrosive, and dangerously reactive materials.
<b>EHSO</b>	Environmental Health and Safety Office
<b>PPE</b>	Personal protective equipment
<b>Safety Data Sheet (SDS)</b>	Summary document that provides information about a hazardous product. This includes chemical properties, physical, health, and environmental hazards, protective measures, and safety precautions for handling, storing, and transporting the hazardous product. (Formerly known as an MSDS.)
<b>Worker</b>	Any employee, student, or visitor who is performing work that is applicable under this procedure.

## 4 Responsibilities

It is the responsibility of an **Employee, Student, or Visitor** working with chemicals (“worker”) to:

- Engage in safety training as provided by their supervisor.
- Recognize when an incident has occurred.
- Seek medical assistance as soon as possible (preferably immediately following exposure or development of symptoms).
- Report hazards, incidents, and near misses involving chemicals to their supervisor and the Environmental Health and Safety Office (EHSO).

- (Employees only) Report any incidents that resulted in medical aid or time loss to the Worker’s Compensation Board.

It is the responsibility of a **Supervisor or Host** to:

- Provide safety training to their employees, students, and/or visitors regarding the chemical hazards of their work.
- Assess worker competency in their ability to work with chemicals safely.
- Assist any worker under their direction in the post exposure protocol and seeking appropriate medical attention.
- Ensure that any incidents and near misses are reported to EHSO.

It is the responsibility of the Environmental Health and Safety Office (EHSO) to:

- Develop and offer applicable training.
- Report any incidents resulting in medical aid or time loss to the Worker’s Compensation Board on behalf of the university.
- Review and update this document to maintain compliance with regulatory and University of Manitoba standards.

## 5 Training

Any employee working with chemicals at the University of Manitoba must have completed the Chemical Safety Training, available via UM Learn.

Any person working with chemicals must receive training specific to the types of chemicals and procedures they will encounter. This includes the identification of known or potential chemical hazards, exposure risks, safety procedures to reduce the risk of occupational, and post exposure and spill response procedures. Additional on-the-job training or safe work procedures may be required for those working with higher-risk chemicals or specific processes.

## 6 Mechanisms of Exposure

For a chemical to harm a person’s health, it must first have a route of entry into the body and then it must have an effect on the body. It is important to note that not all chemicals can cause harm through all mechanisms of exposure. For this reason, the safety data sheet (SDS) provides important information on the specific hazards and effects of each chemical.

**Table 1 Mechanisms for exposure to chemicals**

Route	Explanation
Skin	A chemical may cause damage directly to a person’s skin or enter the body through an open cut, puncture, abrasion, or, less commonly, be absorbed directly through the skin.
Eye	A chemical that splashes into a person’s eye may cause damage directly to the eye or enter the body through veins present in the eye.
Inhalation	A chemical may enter the body through the lungs after breathing it in. This is the most common way a workplace chemical enters the body.

Route	Explanation
Ingestion	A chemical may enter the body by swallowing it. This can occur unintentionally if contaminated hands are not washed before a person touches food or smokes and is the reason why workers may not eat or drink in areas where they handle chemicals.

## 7 First Aid Procedures

If a worker has been exposed to a chemical, the following measures should be taken by the person who was exposed, a first aider, or any other person who can safely do so:

1. Remove the worker from immediate danger, if applicable.
2. Alert other potentially affected workers.
3. Determine the mechanism of exposure and consult the SDS for specific instructions for the chemical involved, directions for first aid can be found in “Section 4: First aid measures.” Ensure to determine whether to expect delayed effects.
4. Perform any first aid needed, general procedures can be found below.
5. Seek medical attention, where needed. Bring a copy of the SDS along.
6. The worker must report the incident to their supervisor.
7. The worker or the supervisor must report the incident to EHSO on or before the next working day.

***Note that while the following procedures cover most chemicals, special cases do exist. Chemicals that fall outside these procedures must be noted during an initial risk assessment and special training provided to any person working with the chemical prior to the start of the work.***

### 7.1 Skin: Contact, Cut, Puncture, Abrasion

General first aid steps:

- a. If necessary, attempt to gently remove the object or needle.  
For a solid chemical, gently dust it off the skin immediately with a gloved hand or piece of cloth.  
Remove any contaminated clothing.
- b. Flush affected area with water for at least 15 minutes. This may be accomplished using an emergency shower or eyewash station, depending on the size and location of the exposure. Use soap, or other cleansing agent, only if indicated by the SDS.
- c. If any symptoms persist, irritation persists, or there is evidence of skin irritation, seek medical attention.

Alternative first aid procedures:

Frostbite	If frostbite has occurred to the skin, seek medical attention immediately; do NOT rub the affected areas or flush them with water.
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	To prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas.
Water Reactive Chemicals	Where flushing with water is inappropriate due to the reactivity of the chemical, the safety data sheet will clearly outline the type of cleansing agent that should be used to flush the skin instead of water.
Chemical Burns	In addition to the steps listed above, loosely cover the affected area with gauze or a clean cloth, rinse again if pain persists, monitor for hypothermia or shock when cooling large burns.

## 7.2 Eyes

General first aid steps:

- a. Do not add other chemicals to attempt to neutralize the exposure.
- b. Go to the nearest eyewash station. Hold eye lids open and flush eyes for at least 15 minutes.  
Remove contact lenses.
- c. Seek medical attention if eye is damaged or irritation persists.

## 7.3 Inhalation

General first aid steps:

- a. Leave the area immediately and get fresh air, other measures are usually unnecessary. If breathing has stopped, perform artificial respiration and keep affected person warm and at rest.
- b. As health affects may be delayed, check the SDS for any symptoms to watch for.
- c. Seek medical attention if breathing is difficult, breathing stopped at any point, or if symptoms persist.

## 7.4 Ingestion

General first aid steps:

- a. Rinse mouth with water. Do not induce vomiting unless instructed to by health care provider or a Poison Centre.
- b. Seek medical attention by calling Poison Control or Emergency First Responders.

## 8 Seeking Medical Attention

Follow-up medical attention should be sought when health concerns are not resolved by immediate first aid. Bring a copy of the SDS so that treatment can be faster and more effective.

Fort Garry Campus – Proceed to Victoria General Hospital Urgent Care
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Bannatyne Campus – Proceed to the Health Sciences Emergency Room
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Other UM Sites or fieldwork – Proceed to the nearest regional Urgent Care or Emergency Medical Facility

## 9 Reporting Incidents

Workplace incidents that cause, or could have caused, worker injury, damage to infrastructure, or an uncontrolled release of hazardous materials must be reported to a worker's supervisor and EHSO.

## 10 References

Manitoba Workplace Safety and Health Act and Regulation, 2022

<https://www.cdc.gov/niosh/npg/firstaid.html>

<https://www.mayoclinic.org/first-aid/first-aid-chemical-burns/basics/art-20056667>

<https://www.ccohs.ca/oshanswers/chemicals/firstaid.html>

## 11 Document History

Version Number	Version Date	Description of Change	Author
1	2024-08-08	Initial Release	Nicola Harris