



## IRRITANT CHEMICALS

### Description

*This standard operating procedure outlines the handling and use of irritant chemicals. Review this document and supply the information required in order to make it specific to your laboratory. In accordance with this document, laboratories should use appropriate controls, personal protective equipment, and disposal techniques when handling irritant chemicals.*

A chemical irritant is one that is not corrosive but that causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.

### Potential Hazards

Irritants are chemicals that cause reversible inflammatory effects on living tissue by chemical action at the site of contact. A wide variety of organic and inorganic compounds are irritants; thus, skin contact with all laboratory chemicals should be avoided.

### Engineering Controls

Use a properly functioning lab fume hood when handling irritants that can be inhaled (via mist/fume/gas/vapor). If the process does not permit the handling of such materials in a fume hood, contact Environment, Health and Safety (EHS) at (810) 766-6763 to review the adequacy of ventilation measures.

### Work Practice Controls

Handling processes should be designed to minimize the potential for splash, splatter, or other likely scenarios for accidental contact.

Ensure secondary containment and segregation of incompatible chemicals per guidance within the substance-specific storage guidance provided in SDS documentation.

*For irritants that are also considered particularly hazardous substances, a designated area shall be established per other applicable SOPs.*

### Personal Protective Equipment

At minimum, safety glasses, lab coat, long pants, and closed toe shoes are to be worn when entering laboratories having hazardous chemicals.

Additionally:

- When handling hazardous chemicals or contacting potentially contaminated surfaces, protective gloves are to be worn. For proper selection of glove material, review the chemical-specific SDS.
- Goggles (not safety glasses) are appropriate for processes where splash or spray is foreseeable.
- For hazardous chemicals that are toxic via skin contact/ absorption, additional protective clothing (i.e., faceshield, apron, oversleeves) is appropriate where chemical contact with body/skin is foreseeable.

## Transportation and Storage

- Transport irritant chemicals in secondary containment, preferably a polyethylene or other non-reactive bottle carrier.
- Store in well-ventilated areas with secondary containment, such as a non-reactive plastic bin.
- Store below eye level.
- Store away from incompatibles. Review the chemical's SDS for incompatibility information. Also refer to EHS's Chemical Storage webpage for more information.
- Avoid storing on the floor. If storing on the floor is necessary, use secondary containment.

## Waste Disposal

Irritant substances intended for disposal may likely be considered hazardous wastes. Wherever possible, attempt to design research in a manner that reduces the quantity of waste generated. Contact Environment, Health and Safety (EHS) at (810) 766-6763 for waste containers, labels, manifests, waste collection and for any questions regarding proper waste disposal. Also refer to UM-Flint Hazardous Waste Management Program and EHS webpage <http://www.umflint.edu/ehs/environment-health-and-safety> for more information.

## Exposures/Unintended Contact



***If the employee is in need of emergency medical attention, call 911 immediately.***



For an actual chemical exposure/injury,

- Flush exposed eyes or skin with water for at least 15 minutes, then seek medical attention (see below).
- Consult SDS for guidance on appropriate first aid. Where medical attention is required, be sure to bring along SDS(s) of chemical(s) to aid medical staff in proper diagnosis and treatment.

Contact EHS for advice on symptoms of chemical exposure, or assistance in performing an exposure assessment.

Report all work related accidents, injuries, illnesses or exposures to UM-Flint DPS. Additionally, employees and supervisors must be sure to report the injury to EHS and complete and submit the [Illness and Injury Report Form](#) to WorkConnections within 24 hours. Follow the directions on the WorkConnections website [Forms Instructions](#) to obtain proper medical treatment and follow-up.

If you were involved in or observed an incident or near miss, please complete the [EHS Laboratory Incident and Near-Miss Report Form](#). This will be valuable in improving laboratory safety on UM-Flint campus.

## TREATMENT FACILITIES:

<u>MAJOR INJURIES</u>	<u>MINOR INJURIES –During Business Hours</u>	<u>MINOR INJURIES –After Business Hours</u>
<b>Genesys Hospital</b> One Genesys Parkway Grand Blanc, MI 48439 (810) 606-5710  <b>Hurley Medical Center</b> One Hurley Plaza Flint, MI 48503 (810) 262-9000  <b>McLaren Hospital Flint</b> 401 South Ballenger Hwy Flint, MI 48532 (810) 342-2000	<b>Genesys Occupational Health Network</b> 1460 Center Rd. Burton, MI 48509 (810) 715-4620 Mon. to Fri. 7:30 am to 10 pm Sat. & Sun. Noon to 8 pm  <b>McLaren Flint-Burton OCC Center</b> 1459 S. Center Rd. Burton, MI 48509 (810) 496-0900 Mon. - Fri. 8 am to 8 pm Sat & Sun 10 am to 2 pm	<b>Downtown Flint</b> 420 S. Saginaw St. Flint, MI 48502 (810) 762-1550  <b>Genesys East</b> 1096 S. Belsay Rd, Suite F Burton, MI 48509 (810) 743-3351  <b>Genesys North</b> 4154 W. Vienna Rd Clio, MI 48420 (810) 686-7397  <b>Genesys South</b> 8447 N. Holly Rd Grand Blanc, MI 48439 (810) 603-0856 Mon. - Fri. 6 to 10pm / Sat. & Sun. 1-10pm

Click [here](#) for more information on the UM – Flint Emergency Preparedness and Response Plan.

### **Spill Procedure**

Prompt response to chemical spills is critical to protect worker health & safety and to mitigate adverse effects to the environment. For further guidance, refer to chemical-specific MSDS.

A **minor (small) chemical spill** is one of a known chemical that the laboratory staff is capable of handling safely without the assistance of safety and emergency personnel, i.e., less than 1 gallon or 3.5 liters. A **major/large chemical spill** requires active assistance from emergency personnel.

### MINOR CHEMICAL SPILL

- Alert people in immediate area of spill.
- If spilled material is flammable, turn off ignition and heat sources. Don't light Bunsen burners or turn on other switches.
- Open outside windows, if possible.
- Wear protective equipment, including safety goggles, gloves and long-sleeve lab coat.
- Avoid breathing vapors from spill.
- Confine spill to as small an area as possible.
- **Do not wash spill down the drain.**
- Use appropriate spill kits/sorbents to absorb spill. Collect contaminated materials and residues and place in container. For powdered chemicals sweep carefully to avoid generation of dust or, if appropriate, use moist sorbent pads or wet the powder with a suitable solvent and then wipe with a dry cloth. Contact EHS at (810) 766-6763 for proper disposal.

- Clean spill area with water.

**MAJOR CHEMICAL SPILL**

- Attend to injured or contaminated persons and remove them from exposure.
- Alert people in the laboratory to evacuate.
- If spilled material is flammable, turn off ignition and heat sources. Don't light Bunsen burners or turn on other switches.
- **Call UM-Flint DPS at 911 from any university telephone or (810) 766-6763 from any cell phone or non-university telephone immediately for assistance.**
- Close doors to affected area.
- Post warnings to keep people from entering the area.
- Have person available that has knowledge of incident and laboratory to assist emergency personnel.

**Additional Spill Links:**

- [www.oseh.umich.edu/pdf/chemspil.pdf](http://www.oseh.umich.edu/pdf/chemspil.pdf)
- <http://www.oseh.umich.edu/emer-chemical.shtml>.

Report all emergencies, suspicious activity, injuries, spills, and fires to the UM-Flint Department of Public Safety (DPS) at 911 from any university telephone or (810) 762-3333 from cell phone or non-university telephone. Register with the [University of Michigan-Flint Emergency Alert System](#) via Wolverine Access. Also, preprogram the UM-Flint DPS telephone number (810) 762-3333 into your cell phone for quick, easy use.

**Training of Personnel**

All personnel are required to complete Laboratory Safety Training. Documentation of the training is required. This training can be accomplished by completing the **Comprehensive Laboratory Safety** session (BLS009 or equivalent) via [MyLINC](#), or UM-Flint EHS on-line training or other equivalent approved by EHS. Furthermore, all personnel shall read and fully adhere to this SOP when handling irritant chemicals.

**Certification**

I have read and understand the above SOP. I agree to contact my Supervisor or Lab Manager if I plan to modify this procedure.

Name	Signature	UM ID #	Date

**Prior Approval required – Is this procedure hazardous enough to warrant prior approval from the Principal Investigator?**       YES       NO

**Principal Investigator** \_\_\_\_\_  
 Laboratory SOP: Irritants

**Revision Date** \_\_\_\_\_  
 Revision Date: 6/12/2014