

# LABORATORY SPECIFIC CHEMICAL HYGIENE PLAN

<b>Laboratory Room Number (s)</b>	
<b>Building</b>	
<b>Principal Investigator or Lab Manager</b>	
<b>Date</b>	
<b>Review / Revision Date</b>	

# INTRODUCTION

---

Cleveland State University has made a commitment to create, maintain, and enhance a safe environment for the entire campus community, including students, faculty, staff and visitors of the academic and research laboratories at Cleveland State University. Part of demonstrating this commitment will be implementing a laboratory specific safety program that follows appropriate federal, state, and local regulations, the University Laboratory Safety Manual and other University laboratory environmental, health and safety policies.

## PURPOSE

---

The lab-specific Chemical Hygiene Plan (CHP) applies to all the laboratories or rooms listed in the laboratory information section of this document on the first page. The intent of this plan is to establish best practices that are necessary for safe operation in the laboratories while also minimizing the physical and health hazard exposure to laboratory workers while working in the laboratory environment. The CHP will provide instructions and guidelines to ensure that Cleveland State University laboratories follow OSHA's Occupational Exposure to Hazardous Chemicals Laboratory Standard and its appendices (29 CFR 1910.1450), CSU Laboratory Safety Manual, and any other University guidelines.

## SCOPE

---

The contents of this document apply to all the individuals working in the lab(s) listed in the laboratory information section of this document. This document will be available to all laboratory workers along with the Cleveland State University Laboratory Safety Manual. These lab specific procedures will cover the topics listed below to protect laboratory workers from the hazards presented in this laboratory.

- Nature of Research
- Responsible Individuals
- Safety Item(s) Location
- General Safety
- Training
- Lab Equipment
- Operating Responsibilities
- Special Hazards
- Emergency Procedures
- Medical Treatment

# **NATURE OF RESEARCH**

Description of Laboratory Research

A large, empty rectangular box with a thin black border, occupying the majority of the page below the title. It is intended for the user to provide a detailed description of their laboratory research.

### **OPERATING RESPONSIBILITIES**

The Principal Investigator or Lab Supervisor will oversee general lab operations, ensure that the work area is safe and complies with applicable regulations, and correct deficiencies in a timely manner. This individual is also responsible for making certain that all personnel using this work area have read, understand, and follow appropriate safety procedures. This plan must be reviewed each year and updated as necessary

### **RESPONSIBLE PERSONNEL**

<b>Name</b>	<b>Title</b>	<b>Room</b>	<b>Extension</b>
	Principal Investigator Faculty Staff		
	Lab Supervisor		
	Stockroom Manager		
	Department Chair		
	Environmental Health & Safety		216-687-2500
	Cleveland State University Police Department		911 (from campus phone) or 216-687-2020 Cell users call 911 and ask for CSU Police
	Access Control, Fire Safety and Security Systems		216-687-5386

## SAFETY ITEM LOCATION

Lab Safety Information	Location
<b>Laboratory Chemical Hygiene Plan</b>	
<p style="text-align: center;"><b>Personal Protective Equipment (PPE)</b></p> <p>Safety Glasses      <input type="checkbox"/>                  Goggles      <input type="checkbox"/></p> <p>Lab Coats              <input type="checkbox"/>                  Aprons      <input type="checkbox"/></p> <p>Respirators            <input type="checkbox"/>                  Dust Mask   <input type="checkbox"/></p> <p>Shoe Covers           <input type="checkbox"/>                  Booties      <input type="checkbox"/></p> <p>Steel Toe Shoes      <input type="checkbox"/>                  Gloves      <input type="checkbox"/></p> <p>Hearing Protection   <input type="checkbox"/></p>	
<b>Standard Operating Procedures (SOP)</b>	
<p><b>CHEMWATCH</b></p> <p><a href="https://www.csuohio.edu/ehs/access-database">https://www.csuohio.edu/ehs/access-database</a></p>	
<b>Chemical Inventory</b>	
<b>First Aid Kit</b>	
<b>Spill Kit</b>	

## GENERAL SAFETY

### Housekeeping and Maintenance

1. No Food, Drink or Cosmetic application permitted in areas where hazardous chemicals are being used.
2. Standard Operating Procedures (SOP's) must be developed for all general, hazardous or experimental activity.
3. Wash hands before leaving the lab and after contact with hazardous materials.
4. Keep bench tops, fume hoods and floors free of debris, obstructions and clutter.
5. Non-contaminated, cracked and broken glassware should be disposed of in a glass waste receptacle.
6. Used needles, syringes and other SHARPS are to be placed into puncture resistant containers labeled "SHARPS CONTAINER ONLY".
7. A waste disposal plan and training must be in place for each laboratory.
8. Laboratory doors should always be kept closed to maintain negative pressure.
9. Report all fires and accidents to EHS at 216-687-2500.

### Apparel

1. **Personal Protective Equipment (PPE)** is **required** in any laboratory that is working with hazardous chemicals regardless of whether there is direct involvement with the hazardous materials.
2. **Required Protection** – eye protection, lab coat, gloves, long pants, and closed toed shoes **must be worn whenever chemicals are being used regardless of whether there is direct involvement with hazardous materials.**

## Hazardous Materials

1. Transporting chemicals between CSU buildings is authorized. No chemicals should be transported off CSU property. All chemicals must be transported in secondary containers to prevent spills or dropping onto counters or floors.
  - Acceptable Secondary Container
  - Plastic Paint or Nalgene Buckets with Secure Fitting Lids
  - Rubber Bottle Carriers
  - Original Shipping Containers with Packing Material
  - ✓ All primary and secondary containers must be labeled with chemical contents. If any labels are peeling, illegible or missing then they must be relabeled.
  - ✓ When transporting multiple large containers use a utility service cart with large wheels that are 4 to 6 inches in diameter and have a chemical resistant tray or surface and 3-inch lips on all sides to keep chemicals from sliding off the cart.
2. Compressed gas cylinders must be secured with chains to the wall, sturdy counters or furniture. Screw caps must be on cylinders being stored or not used.
3. Segregate hazardous materials by hazard class in appropriate LABELED secondary containers and cabinets.
4. All chemical waste should be disposed of in the appropriate receptacles. Do not discharge any hazardous materials to the sewer which might interfere with the biological activity of wastewater treatment or that could create a fire or explosion hazards.
5. Do not work alone in a laboratory if the procedures being conducted involve hazardous materials.

## **Equipment**

1. Equipment must be cleaned up after each use.
2. Follow all equipment procedures and instructions. If a problem occurs with an instrument notify the Principal Investigator or Lab Manager immediately.
3. Equipment that is broken or has damaged electrical cords must be taken out of service and not used.
4. Equipment with missing or inoperable guards and interlocks must be replaced before being used.
5. Malfunctioning or poor performing fume hoods must not be used until the problem is corrected. Report problems with equipment to the Principal Investigator and Facilities immediately.
6. Fume hoods should always be kept closed, except when adjustments within the hood are being made and material storage in the fume hood should be kept to a minimum so the appropriate air flow can be maintained.
7. Leave the fume hood on if in active use or hazardous substances are being stored inside.



## TRAINING

1. All lab workers must read the CSU Laboratory Safety Manual to familiarize themselves with the written program that outlines the procedures and work practices set forth to protect lab workers from exposure to health hazards and physical hazards associated with the use of chemicals in the laboratories.
2. All lab workers are required to take the Basic Laboratory Safety Training offered by Environmental Health and Safety before they begin work in the laboratory. **Refresher training will be required every three years for all lab workers (Principal Investigator, Graduate Students, Teaching Assistants, Volunteers and other types of lab workers).** Training can be conducted in person or via BlackBoard. To request the online version of the training, please click the link below and fill out the requested information:

<https://www.csuohio.edu/ehs/online-safety-training-sign>

3. Laboratory specific training shall be provided to all lab workers by the Principal Investigator or Laboratory Manager. The training information shall be provided to the laboratory worker at the time of initial assignment, prior to assignments involving new exposure situations, and upon changes in the procedures or processes used and/or new hazards present in the laboratory.
4. Training must be documented electronically or in hard copy form. Each Principal Investigator or Lab Manager is responsible for their laboratory space and must keep training documentation in their own records that includes the trainer name, trainee name, date of training and approved procedures.

## Lab Equipment

### List of Laboratory Equipment

Lab equipment is not part of the facility and therefore is the responsibility of the PI or Lab Manager to have the equipment maintained and serviced. All laboratory workers must be trained and authorized before using the equipment.

Lab Equipment	Operation Manual Location

## **SPECIAL HAZARDS**

List all tasks that are a special hazard such as Hydrofluoric Acid, Solvent Stills, Phenols, Pyrophorics, Peroxide Formers, Picric Acid, Perchloric Acid, Biohazards or Radiation.

A large, empty rectangular box with a thin black border, intended for listing special hazards. The box is currently blank.

# EMERGENCY PROCEDURES

## Fires and Chemical Spills

1. Alert personnel in the immediate vicinity.
2. Confine the fire or chemical spill, if possible, to do so without endangering personnel.
  - Keep yourself between the fire and an exit while attempting to confine the fire to avoid being trapped.
  - If you have been trained to use an extinguisher and able to put the fire out, then proceed to do so.
  - If the fire is inside a hood, close the sash, if possible.
  - Close lab doors, if possible, to prevent spread of smoke or vapors into adjoining rooms and corridors.
  - For flammable liquid spills, shut off ignition sources, if possible. Avoid unplugging equipment due to possible electrical arc between receptacle and plug. Instead, Facilities should turn off the breaker.
3. Evacuate the emergency area. If in doubt, evacuate the building. To evacuate a building, pull the nearest fire alarm pull station on your way out.
4. Summon for aid once you are in a safe place.
  - For emergencies that require response from the fire department, police department, or paramedics, dial 911 from a campus phone or 911 from cell phone (and ask for CSU Police).
5. For other emergencies or incidents, call EHS at 216-687-2500 or CSU Police 216-687-2020.

## **Clothing Fire**

1. Drop the person to the floor or other horizontal surface to prevent flames and hot gases from rising to the face and head.
2. Roll the person to smother the flames. Use fire blankets if available or get the person to a safety shower if it is within a one to two seconds of travel.
3. Cool the person by removing clothes that has not adhered to the skin, and by using water and ice packs.
4. Get medical assistance. Call 911 from a campus phone or 911 from a cell phone and ask for CSU Police.

## **Chemical Splash**

### **Eyes**

1. Immediately wash the eyes with potable water or use an eyewash station for at least 15 minutes.
2. Hold the eyelids open and roll the eyes while continuously irrigating.
3. Do not use any substance other than potable water to wash the eyes.
4. Seek medical assistance.

## Skin

1. Remove chemical contact with the skin by brushing off dry and water reactive chemicals. Then quickly remove contaminated clothing and protective equipment (1 second or less).
2. Flush the splashed area with large amounts of potable water or under the safety shower. Never use anything other than water or mild soap and water to clean chemicals from exposed skin.
3. Remove protective eyewear under the emergency shower as quickly as possible when chemicals have entered the eyes. In cases where the eyewear has not been breached by the chemical, remove the protective eyewear after head and face have been thoroughly washed.
4. Wash skin with potable water or remain under the safety shower for 15 minutes or longer. Wash all parts of the skin that may have had chemical contact or contact with contaminated wash water. Remove any clothing that may have come in contact with the chemical or contaminated wash water under the emergency shower.
5. Get medical assistance. Provide Safety Data Sheet (SDS) for the involved chemicals to medical personnel.

### **MEDICAL TREATMENT**

<b>CSU Health and Wellness Services</b>	<b>St. Vincent Charity Medical Center (Occupational Health)</b>	<b>MetroHealth Medical Center (Emergency Room)</b>
2112 Euclid Ave room 205 Cleveland, OH 44115 Phone: (216) 687-3649	2351 East 22 <sup>nd</sup> St Cleveland, OH 44115 Phone: (216) 861-6200	2500 Metrohealth Dr Cleveland, OH 44109 Phone: (216) 778-7800

