



LABORATORY CHEMICAL HYGIENE AND SAFETY PLAN

Laboratory Room Number (s)	
Building	
Principle Investigator or Responsible Individual (s)	
Date	
Review / Revision Date	

INTRODUCTION

Kent State University has made a commitment to create, maintain, and enhance a safe and healthful environment for all individuals associated with the institution, including students, faculty, staff and visitors of the academic and research laboratories at Kent State University. A large part of demonstrating this commitment will be documenting a laboratory specific safety program that is in compliance with appropriate federal, state, and local regulations, the University Chemical Hygiene Plan and other university laboratory environmental, health and safety policies.

PURPOSE

This Laboratory Chemical Hygiene and Safety Plan (LCHSP) 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 LCHSP will provide instructions and guidelines to ensure that Kent State University laboratories are in compliance with OSHA's Occupational Exposure to Hazardous Chemicals Laboratory Standard and its appendices (29 CFR 1910.1450), KSU Chemical Hygiene Plan, EPA 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 Kent State University Chemical Hygiene Plan. 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

Description of Laboratory Research

[illegible]

EXTENSION

Laboratory Supervisor or TA, GA, GRA

Stockroom Manager

Department Chair

Research Safety and Compliance Manager

x21977

Environmental Health & Safety Director

x21950

Department of Public Safety

**911 (emergency)
or x23070
(business)**

OPERATING RESPONSIBILITIES

The principal investigator or responsible individual 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

SAFETY ITEM LOCATION

Lab Safety Information	Location
Kent State University Chemical Hygiene Plan	
Laboratory Chemical Hygiene Plan	
Personal Protective Equipment (PPE) Safety Glasses <input type="checkbox"/> Goggles <input type="checkbox"/> Lab Coats <input type="checkbox"/> Aprons <input type="checkbox"/> Respirators <input type="checkbox"/> Dust Mask <input type="checkbox"/> Shoe Covers <input type="checkbox"/> Booties <input type="checkbox"/> Steel Toe Shoes <input type="checkbox"/> Gloves <input type="checkbox"/> Face Shield <input type="checkbox"/> Hearing Protection <input type="checkbox"/>	
Standard Operating Procedures (SOP)	
Materials Safety Data Sheets (MSDS or SDS) CEMS https://chemicalmgmt.kent.edu/ CHEMWATCH http://jr.chemwatch.net/chemwatch.web/account/autologinbyip	
CEMS https://chemicalmgmt.kent.edu/	
First Aid Kit	
Spill Kit	
Hazardous Waste Accumulation Area	

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 is in place for each laboratory.
8. Laboratory doors should be kept closed at all times to maintain negative pressure.
9. Report all fires and accidents to EHS at 330-672-4996 or 330-672-1950.

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. Chemicals in two liter (500 gallon) containers and above 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
- a. All primary and secondary containers must be labeled with chemical contents. If any labels are peeling, illegible or missing they must be relabeled.
- b. 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 or 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 into the sewer which may interfere with the biological activity of waste water treatment or that could create a fire or explosion hazard.
5. Do not work alone in a laboratory if the procedures being conducted are hazardous.

Equipment

1. Equipment must be cleaned after each use.
2. Follow all equipment procedures and instructions. If a problem occurs with an instrument notify the Principal Investigator or Responsible Individual 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 not be used until repaired.
5. Malfunctioning or poor performing fume hoods must not be used until the problem is corrected. Report problems with equipment to the principal investigator or department office promptly.
6. Fume hoods should be kept closed at all times except when making adjustments within the hood.

7. The fume hood must be on if it is in active use or being used to store hazardous chemicals.

TRAINING

1. All individuals working in the lab are required to take the Introduction Laboratory Safety course offered by the Research Safety and Compliance Department before beginning work in the laboratory.
2. Laboratory specific training shall be provided to all individuals working in the laboratory by the Principal Investigator or Responsible Individual. The information and training shall be provided to the laboratory personnel or student at the time of initial assignment to the laboratory, prior to assignments involving new exposure situations, and upon changes in the procedures used and/or new hazards present in the laboratory.
3. Refresher training will be required for all laboratory employees and students. Training shall include: hazardous chemical use and handling, general safe work practices, safety equipment use and maintenance, chemical storage information, hazardous waste and emergency procedures.
4. Training must be documented electronically or in written form in accordance with the Kent State University Chemical Hygiene Plan. Each principal investigator is responsible for their laboratory space and must retain documentation of such training in their laboratory. Training documentation should include the name of the trainee, the date, and the procedures covered.

LAB EQUIPMENT

List all laboratory equipment

All individuals must be trained and authorized before using the equipment. Repair and maintenance of the equipment will be made by the Responsible Individual, Principal Investigator or Manufacturer.

Lab Equipment	Operation Manual Location

SPECIAL HAZARDS

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

EMERGENCY PROCEDURES

Fires and Chemical Spills

1. Confine the fire or chemical spill, if it is possible to do so without endangering yourself.
 - a. To avoid being trapped, keep yourself between the fire and an exit.
 - b. If you have been trained to use a fire extinguisher and are able to put out the fire then use the fire extinguisher.
 - c. If the fire is inside a hood, close the sash, if possible.
 - d. Close lab doors, if possible, to prevent spread of smoke or vapors into adjoining rooms and corridors.
 - e. For flammable liquid spills, if possible shut off ignition sources, if possible. Turn off the breaker instead of unplugging equipment due to possible electrical arc between receptacle and plug.
2. Alert personnel in the immediate vicinity.
3. Evacuate the affected area. If in doubt, evacuate the building. To evacuate a building, pull the nearest fire alarm pull station on your way out.
4. Summon aid once in safe place.
 - a. For emergencies that require response from the fire department, police department, or paramedics, dial 8-911 from a campus phone or 911 from cell phone.
5. For other emergencies or incidents, call EHS at 330-672-1950, or campus police 330-672-3070 after hours.

Clothing Fire

6. Drop to the floor or other horizontal surface to prevent flames and hot gases from rising to the face and head.
7. Roll to smother the flames. Use fire blankets when available or get the person to a safety shower if it is within one to two seconds of travel.
8. Cool by removing clothes that have not adhered to the skin, by using water and ice packs.
9. Get medical assistance. Call 911 from any phone.

Chemical Splash

1. Eyes

- a. Immediately wash eyes with potable water or use eyewash station for at least 15 minutes.
- b. Hold the eyelids open and roll the eyes while continuously irrigating.
- c. Do not use any substance other than potable water to wash the eyes.
- d. Seek medical assistance.

2. Skin

- a. Remove chemical contact by brushing off dry and water reactive chemicals and removing contaminated clothing and protective equipment that can be removed quickly (1 second or less).
- b. Flush the affected area with large amounts of potable water or under safety shower. Never use anything other than water or mild soap and water to clean chemicals from exposed skin.
- c. 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.
- d. 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.
- e. Get medical assistance. Provide a copy of the SDS for all involved chemicals to medical personnel.

MEDICAL TREATMENT

Deweese Health Center
1500 Eastway Dr.
Kent, OH 44240
Phone: (330) 672-2322

University Hospitals
6847 N Chestnut St
Ravenna, OH 44266
Phone: (330) 297-0811

Laboratory Safety Acknowledgement Statement

I acknowledge that I have reviewed the university and laboratory chemical hygiene plans and guidelines. I have also been trained on laboratory specific procedures and also understand that as assignment changes occur, the responsible individual will review any new hazards and protective measures. My signature, indicates that I have had the opportunity to discuss the health and safety aspects of my work with the responsible individual and that I agree to abide by University, Department and Laboratory procedures and guidelines.

Name	Signature