



# University of Louisville Chemical Hygiene Plan

## Lab Information

**Building Name:**

**Laboratory Room Number(s):**

**Laboratory Phone Number:**

**Faculty/Principal Investigator:**

**PI Office Location:**

**PI Email Address:**

**PI Office Phone Number:**

**PI After-Hours Phone Number:**

**Secondary Contact:**

**Secondary Contact Phone Number:**

## List of Lab Personnel and Most Recent Training

List lab personnel once they have received training on this Chemical Hygiene Plan and all relevant lab-specific training as defined in this document.

Personnel Working in Lab	CHP and Lab-Specific Training Date

**Date of CHP Revision:**

**Revised by:**

## **Laboratory Chemical Hygiene Plan (CHP)**

**Review and revise the Chemical Hygiene Plan annually.**

### **Scope**

This program applies to all laboratory personnel who work with hazardous chemicals. The emphasis of this document is to address the unique hazards of individual lab units. These lab-specific procedures, when combined with the Chemical Safety Section of the Laboratory Safety Manual comprise a comprehensive Chemical Hygiene Plan designed to protect lab personnel from the health hazards of chemicals used in the laboratory.

### **Administrative Responsibilities**

The University of Louisville is responsible for ensuring the safety of its employees and for complying with all relevant state and federal regulations. Because of the importance of workplace safety, the University encourages employees at all levels to promote positive attitudes regarding safety, to incorporate safety into their work practices, and to cooperate fully in the implementation of safety-related programs.

### **Faculty/Principal Investigator**

The Faculty/Principal Investigator is charged with adapting and implementing a lab-specific Chemical Hygiene Plan (CHP). This includes maintaining a chemical inventory, ensuring access to safety data sheets (SDS), developing written standard operating procedures (SOPs) for use of highly hazardous chemicals, enforcing safety practices, providing or scheduling employee training, and reporting hazardous or unsafe workplace conditions to the Department of Environmental Health and Safety (DEHS) (852-6670). The supervisor must annually review the lab-specific SOPs and CHP and update the documents as necessary.

The CHP must be easily accessible to all lab personnel. DEHS recommends that labs upload the CHP, chemical inventory, SOPs, and other safety documentation to the Documents tab of the lab BioRAFT page. <https://louisville.bioraft.com>

### **Laboratory Personnel**

Laboratory personnel are responsible for observing all appropriate practices and procedures contained in the CHP as well as other general safety practices, for attending safety training sessions, and for reporting hazardous or unsafe conditions to the PI or DEHS (852-6670). Any deviation from lab-specific SOP involving hazardous chemicals requires updating the SOP before implementing any changes.

## **Department of Environmental Health and Safety**

The Department of Environmental Health and Safety (DEHS) is responsible for developing and assisting in the implementation of University programs for the health and safety of laboratory personnel. DEHS will perform periodic lab safety assessments, conduct General Laboratory Safety Training, and provide technical guidance on the development of lab-specific Chemical Hygiene Plans and SOPs.

### **Internal Lab Responsibilities**

Describe any additional responsibilities lab personnel have pertaining to health and safety. This may include maintaining chemical inventories, SDSs, preparation of SOPs, etc.

### **General Laboratory Safety Rules**

DEHS strongly recommends lab personnel to think about, act upon, and encourage safety until it becomes a habit. All lab personnel shall observe the guidelines described in the General Safety section of the Lab Safety Manual.

### **Operations/Procedures Requiring Prior Approval**

Prior approval of the Faculty/Principal Investigator is required for certain operations such as working alone after hours and for leaving experiments or equipment running unattended after hours. Other lab-specific procedures requiring prior approval include:

### **Ordering and Storing Chemicals**

The General Chemical Handling and Management section of the Lab Safety Manual contains information concerning the ordering, use and storage of hazardous chemicals, and discusses labeling requirements for chemical containers. This section of the manual also provides guidance regarding storage of flammable and combustible liquids.

## Chemical Inventory

The Faculty/Principal Investigator is responsible for maintaining of an accurate and current chemical inventory. A chemical inventory should include, at a minimum, a list of chemical names and amounts for each chemical. Other information, such as location in lab and date of ordering, may be useful to labs as well.

DEHS encourages labs to upload a copy of the chemical inventory to the Documents tab of the lab BioRAFT page. <https://louisville.bioraft.com>

## Safety Data Sheets (SDS)

Prior to using any chemicals, laboratory personnel must be aware of health risks, reactivity, and safe handling practices associated with each chemical. The SDS is a source of this information. SDS accompany shipments of chemicals from the manufacturer/supplier of the chemical. Chemical vendors, such as Sigma and Fisher, also house databases of SDS.

An SDS for each hazardous chemical must be available and readily accessible to all lab personnel in the laboratory or department. Hard copies and access to web-based databases are both acceptable. Describe the location of SDS access below:

## Safe Operating Procedures for Highly Hazardous Chemicals

Lab-specific SOPs providing detailed information relevant to safety and health considerations are required when laboratory work involves the use of hazardous chemicals as defined by OSHA. Refer to the General Chemical Safety section of the Lab Safety Manual for more information. Always consider disposing of highly hazardous chemicals that are not in active use.

Individual lab units must develop lab-specific SOPs and training for highly hazardous chemicals unique to their research activities. DEHS can provide guidance on developing SOPs. Lab-specific SOPs are an integral part of an individual lab's Chemical Hygiene Plan. SOPs must be easily accessible to all lab personnel. DEHS recommends uploading SOPs to the Documents tab of the lab BioRAFT page. <https://louisville.bioraft.com> If work involves the use of hazardous drugs or chemicals with animals, a Special Animal Safety Protocol (SASP) is required. Contact DEHS for assistance with SASPs.

## Control Measures

The General Rules for Laboratory Safety and General Laboratory Equipment sections of the Lab Safety Manual discuss general safety guidelines for minimizing hazards, including the use of laboratory chemical hoods, personal protective equipment (PPE), and other control measures. DEHS can assist in the selection of appropriate PPE for general lab operations. Individual SOPs for highly hazardous chemicals must address control measures in detail.

## **Injuries and Chemical Exposures**

After first aid is administered and medical follow-up occurs, report all lab-related accidents and chemical exposures to DEHS (852-6670). The OSHA Lab Standard defines requirements for medical consultation and examination. Contact DEHS for guidance on these requirements.

Describe below the specific procedures for laboratory personnel to follow when reporting an injury/chemical exposure:

## **Spills**

Spill response is a part of every safe operation. A spill kit should be readily available in the event of a chemical spill. Only trained lab personnel who have the necessary supplies and are comfortable cleaning up a small spill should attempt to do so. Immediately notify other lab personnel, faculty/PI, and DEHS (852-6670) in the event of a large spill or other chemical emergency.

## **Waste Disposal**

When hazardous materials become outdated, unstable, or are no longer used in the laboratory, the Faculty/Principal Investigator is responsible for the proper disposal of the chemicals.

Refer to the Waste Disposal Guide for complete information on waste disposal, or contact DEHS (852-6670).

## **Vacating or Renovating a Laboratory**

Prior to vacating or renovating a laboratory space, the Faculty/Principal Investigator is responsible for completing the Laboratory Close-Out Procedures. Contact DEHS (852-6670) for assistance.

## **Training**

All personnel who work in laboratories are required to receive general lab safety training as well as lab-specific training. DEHS conducts General Lab Safety and Hazardous Waste, Basic Biosafety, Bloodborne Pathogens, and other general trainings that cover requirements of the OSHA Lab Standard. BioRAFT contains a course directory for all available general training courses: <https://louisville.bioraft.com/raft/training/courses> Contact DEHS (852-6670) for assistance with training questions and requirements.

The Faculty/Principal Investigator is responsible for providing and documenting lab-specific training to all lab personnel. This training should cover this lab-specific Chemical Hygiene Plan, including SOPs for highly hazardous chemicals.

## **Record Keeping**

DEHS maintains permanent records of:

- Environmental monitoring done to determine the presence and concentration of hazardous substances in laboratories.
- Chemical hood performance in laboratories.
- Results of accident investigations and recommendations for actions to minimize the risk of recurrence.

Certificates for general safety training courses offered by DEHS are maintained in BioRAFT under each individual lab member.

Faculty/Principal Investigator maintain the following records for each lab:

- An up-to-date, accurate Chemical Hygiene Plan.
- Training records for lab-specific training, which include employee signatures.
- SDSs for all hazardous chemicals currently stored in the laboratory.
- The inventory of hazardous chemicals stored in the laboratory.
- SOPs for Highly Hazardous Chemicals currently in use in the laboratory.
- SASPs for work with hazardous drugs or chemicals with animals.

DEHS highly encourages labs to maintain all these documents in the Documents tab of the lab BioRAFT page. <https://louisville.bioraft.com>