

## Laboratory Chemical Hygiene Plan -- Teaching Lab

A chemical hygiene plan is a written program developed to establish procedures, protective equipment requirements and standard work practices that promote a safe work environment for employees handling hazardous chemicals in a laboratory. At Baylor University, laboratory personnel are responsible for the preparation of their own Lab Specific Chemical Hygiene Plan. The plan may cover one or more rooms / laboratories associated with a work group or laboratory course and should consider all health and safety issues when work involves the use of hazardous chemicals.

The Chemical Hygiene Plan provided is a template that can be used by any Baylor University laboratory. This plan was developed to meet the guidelines of 29 CFR 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories*, a standard issued by the Occupational Safety and Health Administration (OSHA). Filling in this template for your laboratory will complete the plan.

The Principal Investigator of the research lab acts as the Lab Safety Coordinator to implement the plan, unless he or she delegates that responsibility to a member of his or her research group.

The plan must then be reviewed by all researchers working in the lab and made readily available to lab personnel. The plan must be reviewed, at a minimum, annually by the Laboratory Supervisor.

This template should be completed by the Laboratory Supervisor, by filling in the sections highlighted in gray and adding additional information as appropriate for the lab. It is a convenient way to compile all required documentation into a single manual or location.

## **Introduction**

### Instructor of Record/Laboratory Coordinator

The Instructor of Record/Laboratory Coordinator has ultimate responsibility for chemical hygiene within the laboratory and must, with other administrators, provide continuing support for laboratory chemical hygiene.

### Laboratory Safety coordinator

The laboratory safety coordinator has the responsibility for chemical hygiene in the laboratory. This is often the same person as the Instructor of Record/Laboratory Coordinator.

### Student Laboratory Instructors (if present in course)

The Student Laboratory Instructors are responsible for planning each operation in accordance with the chemical hygiene procedures set forth for the lab and for communicating safety information to the students enrolled in the lab.

### Students Enrolled in the Lab

The students enrolled in the course are expected to follow safety rules and procedures and are subject to grade penalties and/or expulsion from the lab for failure to do so.

*All persons in the lab have the responsibility for safety in the laboratory and for addressing any concerns and/or reporting them to the Laboratory Supervisor, Department, or EH&S personnel.*

It is the responsibility of the Instructor of Record/Laboratory Coordinator to compile, review, and update this information. The Environmental Health and Safety Office will verify the completeness of this section during laboratory audits.

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Laboratory Unit:

Laboratory Courses taught in this unit:

Instructor of Record or Laboratory Coordinator:

Office Location:

Work Phone Number:

Alternate Phone Number:

## **Responsibilities**

### **The Instructor of Record or Laboratory Coordinator shall:**

- Be familiar with universal requirements of this program, such as hazardous waste disposal and departmental emergency planning.
- Compile all information listed under “Checklist” and include in a Laboratory CHP manual or in the lab’s profile on BioRAFT.
  - The inventory of PHSs and written SOPs are the responsibility of the Lab Supervisor or Coordinator unless these responsibilities have been delegated to another employee.
  - The inserted information must be reviewed and updated annually; this review will be documented by completing the annual inspection requirement on BioRAFT. Physically signing is no longer necessary.
- Train Student Laboratory Instructors when the assignment begins and when there is new information or increased hazard is introduced. Document training as appropriate.
- Coordinate interaction with the Chemical Hygiene Officer and Environmental Health and Safety Office, as needed for laboratory audits, incident/accident investigation, medical examinations, exposure monitoring, and emergency response.

### **Student Laboratory Instructors (if present in course) shall:**

- Read this Chemical Hygiene Plan and complete Lab Safety Signature Page.
- Not make any changes to the experimental procedure without the approval of the Instructor of Record or Laboratory Coordinator.
- Report significant chemical spills and injuries, illnesses, possible over-exposures, unsafe conditions, and any other concerns to their supervisor.

## **Safety Data Sheets (SDSs)**

The SDS, or Safety Data Sheet, is a document produced by the chemical manufacturer that includes important chemical information, including:

- Identification;
- Manufacturer’s name and address;
- Physical and chemical characteristics;
- Physical and health hazards, including relevant exposure limits;
- Precautions for safe handling and clean-up of spills, including recommended personal protective equipment (PPE); and
- Emergency and first aid procedures.

*Every teaching assistant and student should be instructed on the use and access of SDS files.*

SDS for our chemicals can be found:

- In this laboratory, located
- On a personal or networked computer, located

NOTE: If using a computer as your source of SDS, it must be able to retain power in the event of a power outage. It is also recommended that SDS be downloaded to a local drive, in the event of a network outage. If this is not possible, then it is recommended that paper SDS be kept for your laboratory.

## **General Principles for Work with Laboratory Chemicals**

### **Minimize All Chemical Exposures**

It is prudent to minimize all chemical exposures. Skin contact with chemicals should be avoided as a cardinal rule. The best way to prevent exposure to airborne substances is to prevent their escape into the working atmosphere by use of hoods and other ventilation devices.

### **Control Measures**

The following control measures are present in this laboratory:

- Fume Hoods
- Safety Shower
- Eyewash Stations

The Department of Environmental Health and Safety may be contacted at any time regarding issues with any of these control measures (710-2900). Fume hoods and safety showers will be tested at a minimum of annually by EH&S. Lab personnel should flush all eyewash stations for at least 10 seconds on a weekly basis.

### **Personal Protection**

- Assure that appropriate eye protection is worn by all persons, including visitors, where chemicals are stored or handled.
- Wear appropriate gloves when the potential for contact with toxic materials exists.
- Use any other protective and emergency apparel and equipment as appropriate.
- It is advisable to avoid the use of contact lenses in the laboratory; if they are used, inform supervisor.
- Remove laboratory coats immediately on significant contamination.

**If there are any general lab guidelines that apply to all chemicals in this lab (i.e. anyone who enters this lab will wear protective safety glasses provided by the lab), they are listed below:**

### **Controlling Exposures – Standard Operating Procedures (SOPs)**

A Standard Operating Procedure (SOP) describes how your lab will handle a hazardous chemical safely, including special handling procedures, engineering controls, and personal protective equipment.

Written SOPs for any hazardous procedure or use of higher hazard materials must be developed and included in your lab's safety binder.

### **Procedures for Waste Disposal**

Assure that the plan for each laboratory operation includes plans for appropriate waste disposal. Deposit chemical waste in appropriately labeled receptacles. All chemical waste will be disposed of in accordance with the Baylor University Chemical Waste Policy and the Laboratory Chemical Waste Management Practices.

*Any questions about chemical waste disposal should be directed to EHS at 710-2900.*

### **Emergency Response**

*Additional information can be found on the “Lab Emergency” posters.*

Evacuation – Employees should be familiar with how to get out of the building in the event of an emergency, and the location of the lab's designated Emergency Assembly Point.

Spill Cleanup Information – An Emergency Spill Kit is located in the lab. This spill kit is designed for:

