

CHSU Laboratory Safety Policy

I. Purpose

The safety of students, employee, and community environment are of the utmost importance at both College of Pharmacy (COP) and College of Osteopathic Medicine (COM) campuses of California Health Sciences University (CHSU). Lab safety policy is prepared comprehensively to ensure the safety and wellbeing of CHSU community. This policy is prepared in compliance with California state laboratory guidelines and OSHA guidelines.

II. Policy Statement

It is the policy of the California Health Sciences University to provide a safe work environment that is free from recognized hazards for its employees in accordance with the General Duty clause of the OSHA Act (Public Law 91-596, Section 5(a)(1)). CHSU is also required by the OSHA Laboratory Standard to ensure that the necessary work practices, procedures, and policies are implemented to protect laboratory employees from all potentially hazardous chemicals in use in their work area.

This policy serves as the Laboratory Safety Plan (LSP) for the CHSU. The LSP is designed to help any employee/student/researcher reduce occupational hazards while working inside the laboratory. After reading this policy any person should be able to identify, recognize, prevent, respond, and report any exposure to hazardous chemicals in a laboratory.

This policy is issued by provost in compliance to environmental health & safety regulations.

III. Scope of Policy

This policy applies all the members of CHSU and visitors who works for laboratory sessions, research and any other field work related activities.

IV. Definitions

Laboratory: A place equipped for experimental study which provides opportunity for experimentation, observation, or practice.

Principal investigator (PI): The person in-charge of the grant funding who governs the ongoing research effectively

Research supervisor: A person who assists the student research program and enables successful achievement of the research goals of the student.

V. Introduction

The Occupational Safety and Health Administration (OSHA) finalized a safety and health standard entitled "Occupational Exposure to Hazardous Chemicals in Laboratories" in 1990, which was written into Title 29 of the Code of Federal Regulations Part 1910.1450. The Standard became effective in May 1990 with a compliance date of January 31, 1991 set. For Universities in California state, the requirements of Title 8 of the California Code of Regulations Section 5190 and Article 110, Regulated Carcinogens of the General Industry Safety Orders must be complied.

A. Objectives of the Policy

- To provide ample information and training to prevent exposure to hazardous chemicals through good laboratory practices.
- To comply OSHA's and California state requirements for everyone working in laboratory.
- To serve as a guide to avoid physical and chemical hazards and right to know program and chemical hygiene plan as per OSHA requirements.
- To maintain standards and safety of all working in CHSU laboratories.

VI. Laboratory Chemical Safety Requirements

This Laboratory Safety policy helps to safely limit laboratory workers' exposure to OSHA regulated substances. Section 5a(1) of the Occupational Safety and Health Act of 1970, the General Duty Clause, requires that employers "shall furnish to each of its employees employment and a place of employment which are free from recognized hazards that are causing or likely to cause death or serious physical harm to his employees." Of importance to note, the general duty clause allows the university to enforce best practices by non-regulatory agencies such as National Institute for Occupational Safety and Health (NIOSH), the Centers for Disease Control and prevention (CDC), the National Research Council (NRC), the National Science Foundation (NSF), and the National Institutes of Health (NIH).

Current OSHA Standards addressed in this safety plan include:

- The Occupational Exposure to Hazardous Chemicals in Laboratories Standard (29 CFR 1910.1450)
- The Personal Protective Equipment (PPE) Standard (29 CFR 1910.132)
- The Bloodborne Pathogens Standard (29 CFR 1910.1030)
- The Hazard Communication Standard (29 CFR 1910.1200)

Person working in laboratory must not be exposed to chemicals beyond their permissible exposure limits specified in OSHA rule 29 CFR 1910, Subpart Z, Toxic and Hazardous Substances. Any person exposure to any regulated substance exceed permissible exposure limits in eight hours of a day must be monitored and if this exposure is continuous, medical exposure surveillance must be enforced. If laboratory requires controlled substances usage, the supervisor/researcher must be registered with the Drug Enforcement Administration (DEA). According to the Toxic Substances Control Act (TSCA), standard laboratory practices and documentation must be in place if research involves chemicals where safety is not known.

Hazardous material shipping is regulated thoroughly in all stages of transport. The United States Department of Transportation (DOT) defines the guidelines for shipping hazardous material package. The person who ships or accepts the hazardous chemicals through domestic transport must complete DOT HAZMAT training and International Air Transport Association (IATA) training. Any laboratory holding chemicals which pose risk to homeland security must complete a "Top Screen" which allows Department of Homeland Security to assess the chemical security threat the facility poses. CHSU does not allow usage of extremely hazardous substances as it requires emergency planning protocols and services in place according to The Emergency Planning and Community Right-to-Know Act of 1986 is a U.S federal law. Chemical, Biological waste, and Hazardous waste disposal should be performed as per the standard guidelines. Resource Conservation and Recovery Act (RCRA) which was enacted in 1976 defines cradle to grave model where the hazardous chemical must be tracked initial to end point disposal.

VII. Laboratory Safety Procedures

- A. CHSU encourages reporting of safety issues and possible hazards to Lab Safety Officer and supervisors.
- B. Lab Safety Officer must ensure the availability of all personal protective equipment in laboratory.
- C. Environment, Health, and Safety Committee holds the authority to close any laboratory identified with health and safety concerns.

- D. Lab Safety Officer / Supervisor must provide and maintain training record for all the students and researchers. The training should include location of emergency equipment such as fire alarms, fire extinguishers, eye washes, emergency showers, spill kits and emergency exits.
- E. EHS must maintain records of accidents and incidents.
- F. Lab entry should be restricted to authorized personnel only. Keep laboratory doors locked when no one is working in the lab

VIII. Training Requirements for Person Working in Classroom Laboratory or Research Laboratory

Laboratory safety trainings must be provided according to the federal law for all before they work inside the laboratory.

Researcher/student/trainee/supervisor/visitor who works in laboratory must complete the following trainings according to their level of research requirements.

- Initial training: This training includes laboratory attire (Lab coat, dress code, gloves, goggles, laminar hood usage when handling hazardous chemicals, precautions, lab response protocols if there is hazard and disposal guidelines)
- Lab specific training:
 - Basic chemical and laboratory training
 - Blood borne pathogen training through Collaborative Institutional Training Initiative (CITI) Program
 - Laboratory safety refresher training must be completed annually
 - Training with specific equipment and handling of hazardous chemicals (If required)
 - Formaldehyde awareness training (If required)
 - Study of SOPs and chemical safety data sheets (if required)

IX. Responsibilities

Deans and Department Chairs have the primary responsibility for ensuring that this document is accessible to all who have access to laboratories, work in laboratories, or assign people to work in laboratories. Lab Safety Officer (LSO) provides initial training yearly to everyone and ensures regular monitoring of the good laboratory practices. LSO also supports PI or lab supervisors to ensure health and safety of CHSU employees and students to implement this plan.

Lab supervisors and PI are responsible for the chemical hygiene in laboratory and appropriate training provided to each person who works in the laboratory. Lab supervisors and PI are responsible to ensure that protective equipment and first aid kits are available and eye wash and emergency wash are in ready to use condition. Also, Lab supervisor, PIs, and students must follow the dress code and food restrictions according to OSHA guidelines while working in lab. Lab supervisor or lab workers are responsible to develop best chemical hygiene practices, standard lab waste disposal practices, react and perform according to standard protocols if there are chemical spill overs in the lab. Chemical accidents or potential exposures must be immediately reported. Chemicals disposal must be performed according to the manufacturer/laboratory guidelines. Operations Department is responsible for functional maintenance of the laboratory equipment and repair.

Important contact information in emergency or non-emergency situations

Emergency Phone Numbers		
CHSU Security	24 Hours/Day	559-495-3000
Clovis Police Department - Emergency	24 Hours/Day	911
Fire Emergency	24 Hours/Day	911
Emergency Transportation to Emergency Room	24 Hours/Day	911
Lab Safety Officer	Normal Business Hours	309-216 - 4381
California Poison Center	24 Hours/Day	1-800-222-1222
V.P. of Operations	Normal Business Hours	559-549 - 6375
Principal Investigator	Normal Business Hours	

Addendum

Covid-19 Return to Research Guidelines

Part One: Health and Safety

To resume in-person laboratory research at CHSU, below is current guidance for higher education institutions. Points offered here are in addition to (and do not supersede) any guidelines and protocols implemented by CHSU and/or federal, state, and local officials.

The paramount principle is the health and wellbeing of faculty and student researchers, and that of the university community. This guidance is offered to help ensure health and safety for the CHSU community and will change as public health guidance and understanding of the virus change.

This guidance is to provide steps for resuming in-person laboratory research activities and to provide guidance to researchers who are expected to create their own specific plans for their activities and personnel, in consultation (or approval) with their Department Chair and/or College Dean. Please be aware that resuming in-person laboratory research should be a phased approach. If there is a significant increase in COVID-19 infections or changes in CHSU policies and/or federal, state, and local guidelines, a return to more restricted operations may be necessary.

The guidance below also is subject to reasonable accommodations and adjustments. Faculty, staff, and students who fall within the CDC's definition of a "vulnerable person" for COVID-19 and CHSU's definition for an "impacted employee" will be able to request reasonable accommodations to their work or learning environment through the Office of Human Resources or Student Affairs of their college.

Until further notice, no national or international travel for research or laboratory work is allowed.

As preparation for and resumption of in-person laboratory research activities are commenced, protective measures will remain essential. These include

- Self-screen before coming to campus for new or worsening signs or symptoms of possible COVID-19. As per current guidelines, do not come to campus if ill or exhibiting signs or symptoms of COVID-19.
- Always maintain six-foot social distancing.
- Use of appropriate laboratory PPE and all current required precautions including use of face masks, etc.
- Cleaning regimens for laboratories and other research facilities.
- Maintain good personal hygiene, including proper hand washing, cough/sneeze etiquette, avoid touching your face, eyes, nose, and mouth.
- Clean/disinfect high-touch locations in shared laboratory spaces.
- Adhere to all posted signage throughout laboratories and campus wide.

Laboratory occupancy should be limited to those necessary to conduct the research and in accordance with revised posted maximum occupancies. Social distancing may require significant revision of normal procedures.

- For impacted employees, continuing temporary remote work to the extent possible for activities such as literature review, data analysis, and writing.
- Laboratories should maximize capacity while minimizing occupancy rates.
- Expect a return significantly decreased density compared with normal operations and return at different times for different research spaces.
- Time in a laboratory should be spent performing necessary experiments and other activities that require physical presence; other work should continue to be performed outside of the lab.
- Reducing the number of researchers present per laboratory, depending on the size of the lab.
- Establishing one-way flow through doorways and adhere to posted entrance and exit signage for each laboratory.

- Posting schedules for the use of each laboratory space and/or piece of shared equipment. This includes facilities that are shared by multiple research groups.

In the event of a suspected COVID-19 infection in the lab:

- The lab director must notify and consult with the Office of Human Resources and university Operations.
- All the lab areas that the affected individual inhabited will be subject to quarantine until disinfection has been completed. Leave space(s) unoccupied for a minimum of three hours and increase ventilation/open windows.
- Disinfection can be performed by either lab personnel or a third-party cleaner, at the discretion of university Operations.

If the lab decides, in/upon consultation with Operation, to undertake cleaning by lab personnel, cleaning is to be done with standard procedures/PPE (gloves and face covering). No special materials or protocols are required. In areas that have higher air movement and exchange, larger particles will settle quickly while smaller particles would be removed by air exchange in relatively short time spans (i.e. under 3 hours). Some labs may only need 1-2 hours depending on air exchange, and reduced access time will be coordinated with Operations. In areas with little air movement or exchange, small particles will be in the air longer. Enclosed rooms with no or extremely limited ventilation, would need to be vacant for 24 hours before entering without higher levels of PPE

Part Two: PI Preparation

A central premise of this guidance is that return-to-research planning should, wherever possible, consist of a PI-driven approach, with appropriate consultation with lab members and oversight from program, departmental, and school leadership. While all conditions around the current situation are fluid and no recommendations should be considered final, the following approach reflects the best current methods for establishing needed modifications for resumption of research with respect to health and safety, equitable access to research laboratories, or any of the evolving institutional requirements and precautions.

PIs are responsible for developing and implementing appropriate management plans for their laboratories and for training their personnel on appropriate cleaning and disinfecting, and hand hygiene.

Every laboratory must have in place an approved reopening plan, as well as a shutdown plan (in the event of increased infection rates) before occupancy. Approval of reopening plans is by the relevant Dean's Office.

PIs working in the same laboratory space are asked to:

- provide the lab reopening plan to a program/department chair and Dean's Office. Once approved, the lab becomes eligible for reopening.
- ensure that lab members other than the PI understand the plan, agree with the implementation, and become conduits for best practices. This will be done within the programs that house a given laboratory, therefore program/department chairs should provide the first level of approval.
- coordinate with each other to best achieve safety-first protocols and procedures.
- establish a set of critical maintenance procedures necessary to maintain safety or long- term viability of laboratories during a full or partial campus shutdown.
- establish research ramp-up policies and procedures that ensure labs are prepared for safe resumption of activities and researchers have arranged spaces, and developed protocols that ensure social and temporal distancing, cleaning of shared equipment, and use of appropriate PPE.

PIs need to consider what steps will be necessary to safely shut the lab down again if necessary. Given the possibility that research may have to be scaled back again with little notice, PIs are strongly advised to ramp up only those projects that can be ramped down quickly and at relatively little cost and complexity. For the time being, PIs should deprioritize projects that depend on nonrenewable resources, such as primary cell cultures or animal experiments, for which scaling back would be costly. PIs need to

- Develop a ramp-down policy for laboratories during a full or partial campus shutdown and create checklists for safe closure of labs to ensure that equipment is cleaned, samples safely stored, and waste properly disposed.
- Develop policies on what may be removed from laboratories during periods in which research activities are conducted remotely