

# CHSU Laboratory Safety Policy

The safety of students, employee, and community environment are of the utmost importance at all campuses and in all academic programs of California Health Sciences University (CHSU). Lab safety policy is prepared comprehensively to ensure the safety and wellbeing of the CHSU community and compliance with California state laboratory guidelines and regulations and rules of the Occupational Safety (OSHA).

It is the policy of the California Health Sciences University to provide a safe work and learning environment that is free from recognized hazards for its employees and students 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 applies all the members of the CHSU community (faculty, students, staff) and visitors to CHSU who work in CHSU's laboratories

## 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 achievement of the research goals of the student.

## The Occupational Safety and Health Administration (OSHA)

Operation of a laboratory is regulated activity. 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. For colleges and universities in California, there are additional regulations set out in Title 8 of the California Code of Regulations Section 5190 and Article 110.

## Objectives

Through this Laboratory Safety Policy, CHSU intends to meet the following objectives:

- To provide ample information and training on safe laboratory practices to prevent exposure to hazardous chemicals.
- To comply with OSHA and California state requirements.
- To serve as a guide for how researchers and laboratory staff can avoid physical and chemical hazards
- To set out a hazard communications plan/right to know program that will provide people working in the laboratories with the hazards and identities of the chemicals they may be exposed to in the workplace.
- To set out the chemical hygiene plan (CHP) as per OSHA requirements, including the policies, procedures and responsibilities that CHSU has put in place to protect workers from the health hazards associated with the hazardous chemicals used in the laboratories.
- To maintain standards and safety of all working in CHSU laboratories.
- To serve 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 so that they are able to identify, recognize, prevent, respond, and report any exposure to hazardous chemicals in a laboratory.

# Laboratory Chemical Safety Requirements

This Laboratory Safety policy is intended to provide guidance as to how to safely limit laboratory workers' exposure to OSHA regulated substances. Under Section 5a(1) of the Occupational Safety and Health Act of 1970 (the General Duty Clause), employers are required to "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." This clause also 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)

Anyone working in laboratory must not be exposed to chemicals beyond the permissible exposure limits specified in OSHA regulations (29 CFR 1910, Subpart Z, Toxic and Hazardous Substances). In the event that a person has been exposed to any regulated substance exceeding the permissible exposure limits in eight hours of a workday, then that person must be monitored by a person designated by the Lab Safety Officer. If this individual's exposure to regulated substances in excess of the permissible exposure limits is continuous, then the medical exposure surveillance must be enforced.

For any laboratory use that involves controlled substances usage, the supervisor/researcher must be registered with the Drug Enforcement Administration (DEA).

Before laboratory research activity involving use of or exposure to chemicals for which the safety is not known, the Lab Safety Officer must identify standard laboratory practices that will be used and set requirements for the documentation of the research activity consistent with the requirements of the Toxic Substances Control Act (TSCA),

Hazardous material shipping is regulated thoroughly in all stages of transport. The United States Department of Transportation (DOT) defines the guidelines for shipping hazardous materials and packages containing hazardous materials. Anyone at the University who ships or accepts the hazardous chemicals through domestic transport must complete DOT HAZMAT training and International Air Transport Association (IATA) training. The [job title] will keep records to document completion of the required 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.

## Laboratory Procedures

1. CHSU requires reporting of laboratory safety issues and possible hazards in CHSU's laboratories to the Lab Safety Officer and Research supervisors.
2. The Lab Safety Officer is responsible for ensuring that sufficient and appropriate personal protective equipment is available for all persons working in a CHSU laboratory.
3. In the event that there are identified health and safety concerns related to a CHSU laboratory, the Environment, Health, and Safety Committee (EHSC) has the authority to close any laboratory space until the health and safety concerns have been remediated.

4. Lab Safety Officer / Research Supervisor must provide and maintain training records for all the students and researchers using CHSU laboratory space. The training will be consistent with the requirements identified in Section VIII of this Policy and, at a minimum will include location and use of emergency equipment such as fire alarms, fire extinguishers, eye washes, emergency showers, spill kits and emergency exits.
5. EHSC must maintain records of laboratory accidents and laboratory safety incidents, including the date of the accident or incident, the identity and contact information for individuals involved in the incident or accident, a description of the incident or accident (including identification of any exposures to hazardous materials and descriptions of any injuries), and the steps taken to remediate the situation.
6. Lab entry should be restricted to authorized students and CHSU personnel / Visitors are not permitted to access laboratories without permission of the Lab Safety Officer and direct supervision of CHSU personnel. Laboratory doors must be locked when no one is working in the lab.
7. While working in the CHSU laboratories, the Lab supervisors, PIs, and students are required to wear required personal protective equipment and comply with restrictions on food and beverages consistent with OSHA guidelines

## Training Requirements

Training requirements for people working in classroom laboratory or research laboratory:

Laboratory safety training must be provided consistent with requirements of federal and state law for anyone working in CHSU laboratory space before they are allowed to work inside the laboratory. Following completion of initial training, anyone working in a CHSU laboratory is required to complete an annual laboratory safety refresher training. The Lab Safety Officer is responsible for maintaining records and documentation of training.

Anyone working in CHSU laboratories (researcher, student, trainee, supervisor, or visitor) complete the following trainings according to their level of research activity and the nature of their 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) and lab safety equipment
- Lab specific training:
  - Basic chemical and laboratory training
  - Blood borne pathogen training through Collaborative Institutional Training Initiative (CITI) Program
  - Training with specific equipment and handling of hazardous chemicals
  - Formaldehyde awareness training
  - Study of SOPs and chemical safety data sheets

## 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. The Lab Safety Officer (LSO) provides initial training yearly to everyone, keeps records and documentation of completion of training, and ensures regular monitoring of the good laboratory practices. The LSO also provides support for PIs or lab supervisors to ensure health and safety of CHSU employees and students to implement this plan.

Lab supervisors and PIs are responsible for the chemical hygiene in laboratory and making certain that each person who works in the laboratory has completed appropriate training. Lab supervisors and PI are responsible for ensuring that protective equipment and first aid kits are available and eye wash and emergency wash are in ready-to-use condition. Lab supervisors are responsible for developing and identifying best practices with respect to chemical hygiene, and standard lab waste disposal practices so that in the event of a chemical spill, anyone working in the lab will be able to respond and react consistent with standard protocols. Chemical accidents or potential exposures must be immediately reported to the

LSO. Chemical disposal must be performed according to the manufacturer/laboratory guidelines and consistent with the requirements of federal, state, and local laws, regulations, and ordinances. The Operations Department is responsible for functional maintenance of the laboratory equipment and repair.

## Emergency Phone Numbers

Important contact information in emergency or non-emergency situations:

	<b>Hours of Operation</b>	<b>Phone Number</b>
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	

## COVID-19 Return to Research Guidelines

### Part One: Health and Safety

The following information is current guidance for higher education institutions intending to resume in-person laboratory research. The 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 making certain to protect 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. Resuming in-person laboratory research should be implemented in 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" can request reasonable accommodations to their work or learning environment through the Office of Human Resources or Student Affairs of their college.

**Until further notice, national or international travel for research or laboratory work is not allowed.**

As preparation for and resumption of in-person laboratory research activities are commenced, protective measures will remain essential: Anyone using the CHSU laboratories must self-screen before coming to campus to identify new or worsening signs or symptoms of possible COVID-19. As per current guidelines, individuals should not come to the CHSU campus if they are ill or exhibiting signs or symptoms of COVID-19.

- Social distancing practices, including a **six-foot separation, should be practiced where feasible.**
- Individuals should use appropriate laboratory PPE follow required precautions, such as the use of face masks.
- Lab Safety Officers should make certain that established cleaning regimens for laboratories and other research facilities are followed, including cleaning/disinfecting high-touch locations in shared laboratory spaces.

- Anyone using the laboratory space should maintain good personal hygiene habits, including proper hand washing, cough/sneeze etiquette, avoid touching your face, eyes, nose, and mouth.
- 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 at 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 non-renewable 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