

UC Davis Policy and Procedure Manual

Chapter 290, Health and Safety Services

Section 56, Chemical Safety

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Responsible Department: Environmental Health and Safety

Source Document: Policy on Management of Health, Safety, and the Environment

I. Purpose

This section outlines policy and procedure governing the safe use of chemicals as part of research, teaching, or other activities at UC Davis. For additional information at UC Davis Medical Center, refer to UCDHS Hospital Policies & Procedure Manual, [Section 1670](#).

II. Policy

A. The University enforces safety practices to ensure:

1. The health, safety, and well-being of students, faculty, staff, postdoctoral fellows, visitors, children, and neighboring human populations.
2. The safety of wild and domestic animals maintained on UC Davis properties or in surrounding areas.
3. Protection of the environment.
4. Minimizing risks associated with the use of hazardous chemicals including those presenting flammable, toxic, carcinogenic, mutagenic, reproductive, or physical hazards.

B. Chemicals that are known or suspected to be hazardous but are not regulated by health and safety codes are included in programs that provide information on safe use, transportation, and disposal of these chemicals.

1. Every campus department or unit using hazardous chemicals in a laboratory must implement the UC Davis Chemical Hygiene Plan (contained in the [Laboratory Safety Manual](#)) and Hazardous Chemicals Communication Program (see Section [290-27](#)) as part of their Injury and Illness Prevention Program (IIPP) (see Section [290-15](#)). The UC Davis Chemical Hygiene Plan applies to hazardous chemical use within laboratories or when activities are research-related. Departments or units using hazardous materials in a non-laboratory environment or for non-research activities must implement the [UC Davis Hazard Communication Program](#).
2. Hazardous chemicals must be transported in a safe manner and in compliance with State and Federal regulatory requirements (see Section [290-65](#)).
3. Hazardous chemical waste must be disposed in compliance with State and Federal regulatory requirements (see Section [290-65](#)).
4. All workers that handle, store, use, or dispose of hazardous chemicals must be trained on appropriate chemical spill response and disposal procedures (see Environmental Health & Safety (EH&S) [SafetyNet #13 - Guidelines for Chemical Spill Control](#)).
5. All individuals that create and manage hazardous waste must be trained on the correct procedures for managing hazardous waste through EH&S. (<http://safetyservices.ucdavis.edu/tr>).
6. All departments that use or store hazardous chemicals must maintain a current inventory of hazardous chemicals through the [online Chemical Inventory System](#) (CIS), and update the inventory at least once a year. Contact EH&S or access the EH&S website for additional information or to set-up an inventory account.

- C. Any work involving the use of regulated chemical carcinogens, must follow the procedures included in the EH&S [Chemical Carcinogen Safety Manual](#).

III. Responsibilities

A. UC Davis Chemical and Laboratory Safety Committee (CLSC):

1. The CLSC is responsible for developing, facilitating, and implementing campus policies and procedures for the safe acquisition, storage, use, and disposal of hazardous chemicals and nanoparticle agents, as well as establishing laboratory processes that enhance safety. CLSC policies and procedures do not include radiological materials, biological materials, lasers, and animal use, all of which are covered under the auspices of their appropriate committee.
2. The CLSC is responsible for the following chemical and laboratory safety program areas:
 - a. Develop ways to share safety policies with the campus community.
 - b. Review the chemical and laboratory safety classes and develop a long-term training plan.
 - c. Develop, facilitate, and implement the campus-wide Chemical Hygiene Plan and associated Standard Operating Procedures (SOPs).
 - d. Develop, facilitate, and implement the Laboratory Safety Review Program, Laboratory Hazard Assessment Tool, and Personal Protective Equipment (PPE) policy.
 - e. Promote the development of environmentally sustainable laboratories.
 - f. Review of Facilities Planning and Laboratory Design Guide as it relates to Environmental Health and Safety.
 - g. Review of the Hazardous Waste Management Program.
 - h. Review of any special Program Areas (e.g., carcinogens, nanotechnology, chemical recycling, and physical hazards) associated with teaching and research.
 - i. Formulate strategy and policy to reduce risks from processes that are identified as posing a significant risk to the campus community.
 - j. Provide instructions to the Office of Environmental Health and Safety on ending projects that have an unacceptable risk to health and safety.
 - k. Enforcement of this policy.

B. Department heads/chairs:

1. Establish and maintain programs that provide a safe and healthy work environment for employees, students, visitors, and volunteers.
2. Provide the resources necessary to mitigate risk from potential hazards, assure appropriate training, and assist in enforcement of campus policies and procedures.
3. Assign a Department Safety Coordinator to perform the roles and responsibilities described in EH&S [SafetyNet #125 - Safety Management Guidelines for Department Safety Coordinators](#).
4. Ensure that the department Illness & Injury Prevention Program (IIPP):
 - a. has been reviewed and updated at least once a year; and
 - b. is compliant with the training requirements (i.e., all new employees have been trained on the IIPP, annual refresher training is completed, and the records are

maintained.

5. Create an Emergency Action Plan and provide and document training on this plan to employees, visitors, and volunteers
 6. Ensure that all chemical inventories for the Department are entered and maintained in the Chemical Inventory System.
 7. Make sure employees comply with mandated medical surveillance programs and are aware of voluntary medical surveillance programs.
 8. Review the results and corrective actions of the Department Safety Coordinators' inspections, EH&S safety reviews, and inspections by groups outside of the department, such as California Occupational Safety & Health Administration(Cal/OSHA) and Certified Unified Program Agency (CUPA).
 9. Develop a process for reviewing employee safety suggestions, as well as reviewing reports of potentially hazardous conditions or concerns.
 10. Assist Department Safety Coordinators and aids in the distribution of safety information.
 11. Review on a quarterly basis, injuries and illnesses that occurred within the department and whether appropriate corrective actions (e.g., training, equipment, SOP revisions) were carried out.
 12. Determine whether or not to establish a Safety Committee to assist in implementation of the Departmental Safety Management Program. The duties stated above can be delegated to a Safety Committee. For departments with research laboratories, the UC Davis Chemical & Laboratory Safety Committee strongly encourages the establishment of a Department Safety Committee.
- C. Principal Investigators (PIs), laboratory managers, laboratory safety officers, or supervisors are responsible for implementing the Chemical Hygiene Plan (CHP) and conducting work in compliance with all applicable State, Federal, and University requirements, including:
1. Following the procedures in the [UC Davis Laboratory Safety Manual/Chemical Hygiene Plan](#).
 2. Following the procedures in the UC Davis [Chemical Carcinogen Safety Manual](#).
 3. Reviewing and updating, at least once a year the work environment hazard assessments (e.g., [Laboratory Hazard Assessment Tool](#)). Review any other safety plans, Standard Operating Procedures (SOPs) and protocols as required by the CHP.
 4. Providing training and maintain training records for employees, visitors, and volunteers who work in the research laboratory on the hazard assessments and safety procedures for chemical use, storage, transport, spill response procedures; chemical waste management; proper use of chemical fume hoods and other engineering controls; and safety equipment.
 5. Maintaining training records for a minimum of three years, and carcinogen exposure records for at least 30 years after employment is terminated.
 6. Providing the correct safety equipment, protective work clothing, and personal protective equipment that was established during the job hazard analysis as part of the Illness & Injury Prevention Program (IIPP), CHP, and Hazard Assessments (see Section [290-50](#) and the [Laboratory Hazard Assessment Tool](#)).
 7. Maintaining a current chemical inventory through the Chemical Inventory System. Inventory should be updated at least once a year, after the addition of a new chemical to the work environment, or the removal and/or disposal of a chemical from the inventory.

8. Disposing of hazardous waste following State, Federal, and campus requirements (see Section [290-65](#)).
 9. Completing safety self-inspections at least once a year (see Section [290-15](#)).
 10. Investigating all injuries, accidents, and incidents, including near misses, to determine the cause and implement corrective action.
 11. Confirming that the storage, consumption, or use of food, beverages, medicines, tobacco, chewing gum, or the application of cosmetics or handling of contact lenses are not allowed in areas where hazardous chemical, biological, or radiological materials are used or stored.
 - a. New laboratory buildings require employee eating areas to be incorporated in the building design.
 - b. Existing campus buildings must identify suitable areas for employees to eat or store items outside of areas where hazardous chemical, biological, or radiological materials are used or stored.
 12. Ensuring staff, students, visitors, and volunteers follow the regulations, policies, and procedures in section III.D.
 13. Designating a responsible person for the workplace during absences of more than 14 days unless direct communication is easily available by telephone and/or email, and a weekly interaction with laboratory personnel is maintained.
- D. Employees/students, visitors, and volunteers:
1. Follow campus policy and procedures, the department Injury & Illness Prevention Program and [UC Davis Laboratory Safety Manual/Chemical Hygiene Plan](#), and other applicable safety plans and procedures.
 2. Follow safety procedures in the UC Davis [Chemical Carcinogen Safety Manual](#), if applicable.
 3. Use the safety equipment, engineering controls, protective work clothing, and personal protective equipment as required by the hazard assessments.
 4. Report unsafe or hazardous situations immediately to the supervisor or instructor.
 5. Report all incidents, including near-misses, accidents, or injuries to the supervisor.
 6. Participate in mandatory medical surveillance, if applicable.
 7. Successfully complete required safety training. See the [Safety Training Matrix for Laboratory Personnel](#).
 8. Follow the campus [hazardous waste disposal and spill procedures](#).
- E. Department Safety Coordinators:
1. Disseminate health and safety information to the department/unit.
 2. Support the Department Safety Committee, if one exists, by bringing information to the Committee about safety issues and communicating safety issues and information back to department personnel.
 3. Conduct or coordinate workplace inspections at least once per year, gather data, and transmit results to the department/unit chair/head or safety committee for review.
 4. Help to review the effectiveness of department/unit Safety Management Program.
 5. Create and review the IIPP at least once a year and arrange for annual training for all

personnel.

6. Create or coordinate the development of the Emergency Action Plan and/or the annual refresher training.
 7. Help with incident investigations and arrange for corrective actions as needed. Work with Environmental Health & Safety (EH&S) to make sure that California Occupational Safety & Health Administration (Cal/OSHA) notices are shared with workers.
 8. Coordinate the development and implementation of the Hazard Communication Program.
 9. Work with EH&S and Certified Unified Program Agency (CUPA) auditor when inspecting specified areas and arrange for corrective actions as needed.
 10. Help and guide Principal Investigators in getting needed authorizations.
 11. Assist with the Chemical Inventory System reporting, annual carcinogen self-audit, and arrange for any corrections as needed.
- F. Occupational Health Physician:
1. Provide medical surveillance for employees associated with chemical carcinogen projects or other hazardous chemical projects.
 2. Work with Student Health and Counseling Services to provide medical surveillance for students associated with chemical carcinogen projects.
- G. Student Health and Counseling Services collaborates with Occupational Health Services to provide medical surveillance to students who work with chemical carcinogens or other hazardous chemical projects.
- H. Office of Environmental Health and Safety helps campus departments comply with State and Federal laws and regulations and campus policy and procedures including:
1. Providing consultation as requested.
 2. Assisting PIs and departmental managers and supervisors to complete their annual self-audit and updates for Standard Operating Procedures.
 3. Performing comprehensive laboratory safety reviews.
 4. Helping PIs, managers, and supervisors in training laboratory personnel.
- I. Facilities Management tests and properly cares for chemical laboratory and storage area fume hoods, ventilation fans, pollution control equipment, eyewash/emergency showers, and other engineering control safety devices annually or more frequently if necessary to ensure their proper operation.

IV. Further Information

For further information contact EH&S, (530) 752-1493 or e-mail researchsafety@ucdavis.edu.

V. References

- A. State and Federal regulations ([California Health and Safety Code](#); [California Code of Regulations](#); [U.S. Code of Federal Regulations](#)):
1. Injury and Illness Prevention Program. [[8 CCR §3203](#).]
 2. Access to Employee Exposure and Medical Records. [[8 CCR §3204](#).]
 3. Emergency Action Plan and Fire Prevention Plan. [[8 CCR §3220](#) and [§3221](#).]
 4. Personal Protective Devices [[8 CCR §3380](#)].

5. Chemical Hygiene Plan. [[8 CCR §5191.](#)]
 6. Hazard Communication Program. [[8 CCR §5194.](#)]
 7. Chemical Carcinogen Safety Program. [8 CCR §5200-5220.]
 8. Hazardous Waste Disposal and Transportation. [22 CCR, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste; 8 CCR, Division 1, Chapter 4, Hazardous Waste and Hazardous Materials; Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control, and Chapter 6.95, Hazardous Materials Release Response Plans and Inventory; 49 CFR, Parts 100-177 and 350-399, Department of Transportation.]
- B. UC Office of the President: [University Policy on Management of Health, Safety, and the Environment.](#)
- C. UCD Policy & Procedure Manual, [Chapter 290, Health and Safety Services.](#)
- D. [UC Davis EH&S](#) Safety Manuals:
1. [Laboratory Safety Manual/Chemical Hygiene Plan.](#)
 2. [Chemical Carcinogen Safety Manual.](#)
 3. [Respiratory Protection Manual.](#)
- E. UC Davis EH&S [Safety Nets.](#)