



CALIFORNIA STATE UNIVERSITY

**Stanislaus**

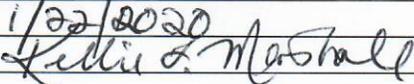
ENGAGING · EMPOWERING · TRANSFORMING

# Chemical Hygiene Plan

*Per Federal Regulation 29 CFR 1910  
and California Code of Regulations Title 8 §5191*

CALIFORNIA STATE UNIVERSITY, STANISLAUS  
Chemical Hygiene Program

*This sheet should be completed each time the Chemical Hygiene Plan is reviewed and/or modified. The Director for Safety & Risk Management is responsible to review and approve this plan annually or more frequently as needed per Federal Regulation 29 CFR 1910 and California Code of Regulations Title 8 §5191.*

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1. Updated the Plan Review page with the new Document Control numbering system	
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## 1.0 Regulatory Authority

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The United States Department of Labor, Occupational Health and Safety Administration, Code of Federal Regulation 29 CFR 1910 and California Code of Regulations Title 8 §5191.

## 2.0 Administering Agency

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California Division of Occupational Safety and Health, Department of Industrial Relations (Cal/OSHA).

## 3.0 Background [T8 CCR §5191 (e)]

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Stanislaus State is committed to providing a safe and healthy workplace and educational environment for its faculty, staff, principal investigators, and students. The University's research and educational activities are complex. It would be difficult for a single chemical hygiene compliance program document to adequately serve the University's needs. The University Chemical Hygiene Plan provides a foundation and direction to college and department specific Safety & Health Plans and addendums.

## 4.0 Scope [T8 CCR §5191 (c)]

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In its efforts to ensure the protection and well-being of its staff, students, and members of the public, the University has elected to expand its Chemical Hygiene Plan beyond the scope of Cal/OSHA's Occupational Exposure to Hazardous Chemicals in Laboratories Standard, California Code of Regulations, Title 8 (T8 CCR), §5191, to include the other areas of the University such as the fine arts laboratories and facility maintenance departments in addition to its science laboratories as appropriate.

## 5.0 Policy [T8 CCR §5191 (c)]

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This Plan was established to protect the University community from health and physical risks associated with the presence of hazardous chemicals and substances in laboratories and to ensure effective controls are in place to keep hazardous material exposures below the permissible exposure limits (PEL) specified in Title 8 of the California Code of Regulations, (T8 CCR), §5155 (table ac-1).

Members of the University community may encounter potential physical, biological, radioactive, or other hazards in laboratories or shops that are regulated by Cal/OSHA standards other than T8 CCR, §5191. In the event there is a conflict among provisions of the various standards, Safety & Risk Management (S&RM) will help in resolving the discrepancy. Questions regarding this plan should be directed to S&RM (209) 667-3057.

## 6.0 Definitions

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The following definitions include those definitions contained in California Code of Regulations, Title 8 (T8 CCR) §5191(b).

- **Action level** - A concentration designated in Title 8, California Code of Regulations for a specific

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substance, calculated as an eight (8)-hour time weighted average, which initiates certain required activities such as exposure monitoring and medical surveillance.

- **Biological safety cabinet** - A ventilated cabinet that serves as a primary containment device for operations involving biohazard agents or biohazardous materials. Three classes of biological safety cabinets are described below:
  - Class I: A ventilated cabinet for personnel protection with an un-recirculated inward airflow away from the operator and high-efficiency particulate air (HEPA) filtered exhaust air for environmental protection.
  - Class II: A ventilated cabinet for personnel, product, and environmental protection having an open front with inward airflow for personnel protection, HEPA filtered laminar airflow for product protection, and HEPA filtered exhaust air for environmental protection.
  - Class III: A total enclosed, ventilated cabinet of gas-tight construction. Operations in the cabinet are conducted through attached protective gloves.
  
- **Carcinogen** - (see “select carcinogen”)
  
- **Chemical Hygiene Officer** - An employee who is designated by the employer and who is qualified by training or experience to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan. This definition is not intended to place limitations on the position description or job classification that the designated individual shall hold within the employer's organizational structure.
  1. **University Chemical Hygiene Officer** – Chemical Hygiene Officer responsible for oversight of the University’s Chemical Hygiene Plan; normally the Director of Safety & Risk Management will fulfill this role
  2. **College Chemical Hygiene Officer** – Chemical Hygiene Officer responsible for the oversight of a specific college of the University; a Department Safety Coordinator can fulfill this role
  
- **Chemical Hygiene Plan** - A written plan developed and implemented by the employer that sets forth procedures, equipment, PPE, and work practices that:
  1. are capable of protecting employees from the health hazards presented by hazardous chemicals used in that particular work place and;
  2. meet the requirements of §5191(e).
  
- **Combustible liquid** - Any liquid having a flashpoint at or above 100°F (37.8°C) but below 200°F (93.3°C) except any mixture having components with flashpoints of 200°F (93.3°C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.
  
- **Department Safety Coordinator (DSC)** - Individuals within departments or colleges who have been appointed by their supervisors or administrators to assist in implementing the IIPP in their respective areas.
  
- **Designated area** - An area that may be used for work with select carcinogens, reproductive toxins, or substances that have a high degree of acute toxicity. A designated area may be the entire laboratory, an area of a laboratory, or a device such as a laboratory hood.
  
- **Emergency** - Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that results in an uncontrolled release of a hazardous chemical into the

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workplace.

- **Employee** - An individual employed by the California State University to perform work in a laboratory workplace or other environment who may be exposed to hazardous chemicals in the course of his or her assignments.
- **Explosive** - A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.
- **Flammable** - A chemical that falls into one of the following categories:
  - “Aerosol, flammable” means an aerosol that when tested by the method described in 16 CFR 1500.45 yields a flame projection exceeding 18 inches at full valve opening or a flashback (a flame extending back to the valve) at any degree of valve opening;
  - “Gas, flammable” means:
    - A gas that at ambient temperature and pressure forms a flammable mixture with air at a concentration of 13 percent by volume or less; or
    - A gas that at ambient temperature and pressure forms a range of flammable mixtures with air greater than 12 percent by volume, regardless of the lower explosive limit.
  - “Liquid, flammable” means any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99 percent or more of the total volume of the mixture.
  - “Solid, flammable” means a solid, other than a blasting agent or explosive as defined in 29 CFR 1910.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.
- **Hazardous chemical** - any chemical which is classified as health hazard or simple asphyxiant in accordance with the Hazard Communication Standard (§1910.1200).
- **Hazardous Substance** – A substance that by reason of being explosive, flammable, poisonous, an irritant, or otherwise harmful is likely to cause injury or illness if not used with effective control methods.
- **Health hazard** - A chemical that is classified as posing one of the following hazardous effects: Acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); aspiration hazard. The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A of the Hazard Communication Standard (Section 5194) and Section 5194(c) (definition of “simple asphyxiant”).
- **HEPA** – Acronym for high-efficiency particulate absorption.
- **Laboratory** - A facility where the “laboratory use of hazardous chemicals” occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a non- production basis.

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- **Laboratory use of hazardous chemicals** - Handling or use of such chemicals in which all of the following conditions are met:
  - Chemical manipulations are carried out on a “laboratory scale”;
  - Multiple chemical procedures or chemicals are used;
  - The procedures involved are not part of a production process, nor in any way simulate a production process; and
  - “Protective laboratory practices and equipment” are available and in common use industry-wide to minimize the potential for employee exposure to hazardous chemicals.
  
- **Medical consultation** - A consultation that takes place between an employee and a licensed physician for the purpose of determining what medical examinations or procedures, if any, are appropriate in cases where a significant exposure to a hazardous chemical may have taken place.
  
- **Mutagen** - Chemicals that cause permanent changes in the amount or structure of the genetic material in a cell. Chemicals classified as mutagens in accordance with the Hazard Communication Standard (§5194) shall be considered mutagens for purposes of this section.
  
- **Physical hazard** - A chemical that is classified as posing one of the following hazardous effects: Explosive; flammable (gases, aerosols, liquids, or solids); combustible liquid; oxidizer (liquid, solid, or gas); self-reactive; pyrophoric (gas, liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; in contact with water emits flammable gas; water-reactive; or combustible dust. The criteria for determining whether a chemical is classified as a physical hazard are in Appendix B of the Hazard Communication Standard (§5194) and §5194(c) (definitions of “combustible dust,” “combustible liquid,” “water-reactive” and “pyrophoric gas”).
  
- **Reproductive toxins** - Chemicals that affect the reproductive capabilities including chromosomal damage (mutations), effects on fetuses (teratogenesis), adverse effects on sexual function and fertility in adult males and females, as well as adverse effects on the development of the offspring. Chemicals classified as reproductive toxins in accordance with the Hazard Communication Standard (§5194) shall be considered reproductive toxins for purposes of this section.
  
- **Risk & Safety Solutions (RSS)** – A modularized electronic safety suite for risk assessment and lab safety. Modules used are Assess, Chemical Inventory, and Inspect.
  
- **Select carcinogen** - Any substance that meets one of the following criteria:
  - It is regulated by Cal/OSHA as a carcinogen; or
  - It is listed under the category, “known to be carcinogens,” in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (1985 edition); or
  - It is listed under Group 1 (“carcinogenic to humans”) by the International Agency for Research on Cancer Monographs (IARC) (Volumes 1-48 and Supplements 1-8); or
  - It is listed in either Group 2A or 2B by IARC or under the category, “reasonably anticipated to be carcinogens” by NTP, and causes statistically significant tumor incidence in experimental animals in accordance with any of the following criteria:
    - After inhalation exposure of 6-7 hours per day, 5 days per week, for a significant portion of a lifetime to dosages of less than 10 mg/m<sup>3</sup>;
    - After repeated skin application of less than 300 mg/kg of body weight per week; or
    - After oral dosages of less than 50 mg/kg of body weight per day.

## 7.0 Responsibilities [T8 CCR §5191 (e) (3) (g)]

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While the overall responsibility for University health and safety rests with the President, the immediate responsibility for laboratory health and safety belongs to each employee working with chemicals. All employees are responsible for knowing how to handle the chemicals that they work with in a safe manner. If one is unsure of the hazard, or proper procedure, they should seek assistance prior to proceeding.

### 7.1 Safety & Risk Management (S&RM)

It is the responsibility of S&RM to develop, maintain, and administer the University [Injury & Illness Prevention Program](#) and therefore the [University Chemical Hygiene Plan \(CHP\)](#). Further responsibilities are outlined below:

- a. Provide consultation to Deans, Department Chairs, Department Safety Coordinators (DSCs) regarding program compliance, including but not limited to issues of hazard identification and evaluation, procedures for correcting unsafe conditions, systems for communicating with employees, holding regularly scheduled safety meetings, providing employee training programs, regulatory compliance strategies, and recordkeeping.
- b. Review and update the University Chemical Hygiene Plan annually for accuracy and appropriateness. [T8 CCR §5191 (e) (4)]
- c. Monitor and approve annual review of Departmental Health & Safety Plans and standard operating procedures for the use of hazardous chemicals, substances, and operations.
- d. Monitor the completion of refresher training for faculty and staff when content changes are made to the University Chemical Hygiene Plan, its procedures, and its associated documents.
- e. Provide technical consultation to the colleges with the Risk & Safety Solutions (RSS) modules.
- f. Provide centralized monitoring of campus wide activities, on a consultative basis, in the areas of biological safety, chemical hygiene, emergency preparedness, fire safety, hazard communication, hazard identification, hazardous materials management, industrial hygiene, occupational safety, pest management, public health and sanitation, radiation safety, risk management, and safety education and training.
- g. Work with the College of Science, College of Arts, Humanities, and Social Sciences, Facilities and any other department subject matter experts to maintain a master list of hazardous chemicals and substances used at the University.
- h. Develop and facilitating the operation of a University Chemical Hygiene Sub-committee of the Campus Safety Committee.
- i. Ensuring the University Chemical Hygiene Committee meets regularly, and
  - The agendas and minutes are maintained appropriately.
  - Submit a summary report describing the Chemical Hygiene Plan, and reviewing any findings and significant changes to the University Chemical Hygiene Subcommittee annually.
- j. Maintain centralized environmental and employee medical monitoring records, allowing employee access as directed by law.
- k. Serve as the principal point of contact with regulatory agencies on matters of chemical hygiene at the University.
- l. Dispose of chemical wastes generated from laboratories in accordance with the University

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Hazardous Waste Removal Guidelines.

- m. Perform periodic chemical hygiene and lab safety inspections and maintain inspection records, and notify Deans and Department Chairs of the results of these inspections.
- n. Arrange for general safety inspections and safety equipment testing as required under state and federal regulations to include, but not be limited to: showers, ventilation, and fume hoods.
- o. Review injury/incident reports for root cause analysis, prevention, trends, and training considerations.

## 7.2 Deans and Department Chairs

It is the responsibility of Deans and Department Chairs whose classrooms, laboratories, and/or workroom activities include the use of hazardous chemicals or substances ensure the development, implementation, and effective management of a Health & Safety Plan as they relate to operations under their control. Specific areas include employee and student education and training, identification and correction of unsafe conditions, and recordkeeping. Responsibilities include, but are not limited to:

- a. Develop or adopt a written department-specific Health & Safety Plan and standard operating procedures and ensure that faculty, students and staff follow adopted procedures.
- b. The formation of a college or department Chemical Hygiene Safety Committee.
- c. Appointing two representatives to the University Chemical Hygiene Committee; one of which shall be the DSC.
- d. Develop or adopt and implement an education and training program designed to instruct faculty and students in general safe work practices specific to their lab activities. Such education and training shall take place prior to the faculty or student being assigned to potentially hazardous work or exposure and refresher training every 3-years after the initial training.
- e. Establish exposure monitoring and medical surveillance for affected employees where exposure monitoring reveals an exposure level above the action level (or in the absence of an action level, the exposure limit) for a Cal/OSHA regulated substance as prescribed by the particular standard.
- f. Instruct or seek instruction for faculty and students in the recognition and avoidance of unsafe conditions, including hazards associated with non-routine tasks and emergency operations. Permit only those employees or students qualified by training to operate potentially hazardous equipment. Do not assume that newly hired, newly assigned or reassigned employees or students comprehend all safety procedures associated with the new job duties.
- g. Develop and maintain a system of recordkeeping to document all employee and student education and training activities, including a system of sharing such records with S&RM. Such records should include, but not be limited to, training given, employee and student injuries, incident reports, and complaints or grievances involving safety issues. Records should be readily available in electronic or paper format such as a sign-in sheet.
- h. Develop, maintain and ensure accuracy of an inventory of hazardous materials present in all work areas within the department using the RSS Chemical module.
- i. Ensure chemical procurement policies are followed by faculty, staff, principal investigators, and students, including the ordering of particularly hazardous materials or equipment. Request on the Purchasing Requisition a Safety Data Sheet (SDS) where one is not already

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- available or equipment safety procedure.
- j. Ensure chemical waste is disposed of in accordance with the University's Hazardous Materials Management procedures and all federal and state requirements.
  - k. Ensure safety inspections are completed in a timely manner.
  - l. Post in a conspicuous location appropriate safety notices or procedures.
  - m. Designate a Department Safety Coordinator (DSC).
  - n. Provide necessary resources, oversight and/or support to ensure:
    - Faculty and staff are provided the appropriate personal protective equipment
    - Faculty and staff are provided appropriate medical monitoring
    - Laboratories have appropriate emergency response equipment
    - Compliance with safe chemical and material storage practices
  - o. Develop methods, as appropriate, to inform outside contractors' employees who work in areas under department jurisdiction of the hazards to which those employees may be exposed.

### 7.3 Course Instructor/Principal Investigator (PI)

Faculty members and principal investigators are responsible to educate about, promote and enforce all applicable safety and health rules, regulations, policies, procedures, and safe practices with respect to their research, classes and/or other operations. Responsibilities include, but are not limited to:

- a. Develop or adopt local area procedures to ensure effective compliance with the IIPP and department Health & Safety Plan as it relates to operations under their control. Specific areas of responsibility include student safety training, identification and correction of unsafe conditions, and recordkeeping.
- b. Comply with University and college environmental health and safety policies, programs, procedures, and practices.
- c. Comply with the written department Health & Safety Plan and standard operating procedures.
- d. Ensure that each student adheres to adopted procedures.
- e. Authorize and document unsupervised access to laboratories by using the Laboratory Access Authorization form (Appendix B).
- f. Ensure authorized unsupervised lab users receive appropriate health and safety training specific to the activities and equipment being used.
- g. Enforce the prohibition of the storage, preparation, and consumption of foods and beverages meant for human consumption in areas where chemical and/or hazardous substances are used and/or stored.
- h. Annually review the department Health & Safety Plan inclusive of the standard operating procedures for accuracy and appropriateness and submitting suggestions for updates/changes to the DSC.
- i. Participate in environmental health and safety training, including but not limited to, Lab Safety Fundamentals with refresher training every 3-years.
- j. Ensure all chemical and substance containers are labeled in accordance with the University's Hazard Communication Program.
- k. Ensure the proper disposal of all hazardous materials according to the University Hazardous Waste Management procedures and all federal and state requirements.
- l. Conducting and documenting training:
  - New laboratory worker safety training within 14 days of the worker's start date and prior

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- to allowing them to work with hazardous chemicals or substances.
- Routine environmental health and safety training for faculty, staff and/or students working/learning under their supervision, including but not limited to, Lab Safety Fundamentals with refresher training every 3-years.
- m. Complete safety inspections at least once per semester [Appendix A (D) (4) (b) of T8 CCR §5191].
  - n. Ensure a safe, healthful, and orderly environment, inclusive of offices, classrooms, laboratories, waste storage areas, and supply rooms.
  - o. Ensure only approved service animals and laboratory animals are allowed in the laboratories and workshops.
  - p. All shared laboratories are supervised by a University employee at all times.
  - q. Appropriate safety information and warning signs are posted and kept visible in classrooms, laboratories, stockrooms, and supply rooms.
  - r. Employees and students under their supervision receive medical consultation and/or examination when an exposure to hazardous chemicals or substances occurs.
  - s. Wear appropriate personal protective equipment in the prescribed manner.
  - t. Report suspected exposure to hazardous chemicals or substances to the Dean and S&RM.
  - u. Properly document all injuries incidents or illnesses that occur per the employee online injury reporting system.

#### **7.4 Department Safety Coordinators (DSCs)**

Department Safety Coordinators report to the Dean or Department Chair of their assigned college and are accountable, with respect to chemical hygiene matters, to the University Chemical Hygiene program and department Health & Safety Plan. Responsibilities include, but are not limited to:

- a. Develop and maintain:
  - 1. A department Health & Safety Plan as outlined in Appendix A.
  - 2. An inventory of chemicals and substances using the RSS Chemical Inventory module.
  - 3. Distributing the department Health & Safety Plan as necessary.
- b. Ensure:
  - 1. The development of appropriate standard operating procedures for the use of hazardous chemicals, substances, and operations and including them in the department Health & Safety Plan.
  - 2. Meeting agendas and minutes are maintained for the college's Chemical Hygiene Committee and providing the agendas and minutes to the Dean and S&RM as requested or appropriate.
  - 3. Documented Chemical Hygiene Plan orientation training is completed by all faculty, staff, and principal investigators in the department.
  - 4. Appropriate, initial safety and health training is documented and conducted including but not limited to Lab Safety Fundamentals with refresher training every 3-years.
  - 5. Faculty, lab technicians, and/or principal investigators submit documented safety inspections using the RSS Inspect module.
  - 6. The maintenance of accurate chemical inventories for the department.
- c. Review annually the department Health & Safety Plan, inclusive of the standard operating procedures for the use of hazardous chemicals, substances, and operations for accuracy and appropriateness and updating it as needed.

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- d. Ensure all department chemical and hazardous material procurement requests follow procurement policies.
- e. Review requests to procure unauthorized hazardous chemicals and substances with the Dean and S&RM to ensure appropriate action is taken.
- f. Coordinate and facilitate the development and effective operation of an ongoing Chemical Hygiene Safety Sub-Committee for the College.
- g. Participate on the University's Chemical Hygiene Committee.
- h. Conducting and documenting random safety inspections which include laboratory emergency response equipment, using the RSS Inspect module.
- i. Educate employees about, monitoring and enforcing compliance with:
  - 1. Safe chemical and material storage practices.
  - 2. Standard operating procedures for the use of hazardous chemicals, substances, and operations.
- j. Work with S&RM:
  - 1. To ensure laboratory fume hoods are routinely inspected.
  - 2. To ensure that hazardous waste is disposed of in accordance with the University's Hazardous Materials Management Program and federal and state requirements.
- k. Maintain an appropriate SDS for each chemical used within the department.
- l. Educate employees about and enforcing compliance with the University and college Chemical Hygiene Plans.
- m. Facilitate the provision of medical consultation and examination for employees who report an exposure to hazardous chemicals or substances.
- n. Provide treating physicians with required information when employees require medical consultation and/or examination.
- o. Inform employees/students who submit chemical hygiene safety concerns of the results of any reviews, findings, and any further actions.

### **7.5 Staff – Support and Custodial**

Staff members providing laboratory and classroom support and custodial services may have exposures to hazardous chemicals and substances and are therefore responsible for:

- a. Complying with the University's environmental health and safety programs, procedures, and practices.
- b. Obtaining appropriate authorization prior to entering areas where hazardous chemicals and substances are used or stored.
- c. Participate in Introduction to Lab Safety and other relevant training prior to entering areas where hazardous chemicals and substances are used or stored.
- d. Wearing appropriate personal protective equipment in the prescribed manner in areas where such personal protective equipment is required.
- e. Completing hazardous material handling/GHS training.
- f. Report suspected exposure to hazardous chemicals or substances to their immediate supervisor and S&RM.

### **7.6 Chemical Hygiene Committees**

- a. Annually review and provide updates on all department safety policies and procedures.
- b. Review current and new laws affecting the use of hazardous materials.

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- c. Review all hazardous materials/equipment, approve use, and procedures for disposal.
- d. Conduct annual safety inspections of all laboratories, providing the primary users of the laboratories with a list of any deficiencies. Provide follow-up to ensure corrections have been made.
- e. Ensure that appropriate training records are maintained and retained.
- f. Ensure that technical staff in the college receive appropriate regular safety training (and certification where appropriate) – this training shall be the first priority use of college staff development funds.
- g. Communicate to the dean and department chairs the relative importance of safety risks and concerns that have been identified as well as the relative urgency of remedial actions.
- h. Document safety concerns identified in the college, including accidents and “near misses.”
- i. Summarize safety concerns and share the summary with the faculty and staff of the college.
- j. Schedule annual reviews of all labs and hazardous work spaces in the college.
- k. Create and maintain a Health and Safety Plan for the college.
- l. Review departmental Health and Safety Plans.
- m. Address other health and safety issues as they arise.
- n. Maintain committee records.
- o. Review injury/incident reports for root cause analysis, prevention, trends, and training considerations in coordination with S&RM.

### 7.7 Students

Students, although not employees, may be at risk of exposure to hazards associated with laboratories and classroom activities that involve hazardous chemicals and substances. Therefore, students are responsible to:

- a. Comply with:
  - 1. The University’s CHP and department Health & Safety Plans, procedures, and practices.
  - 2. Standard operating procedures for the use of hazardous chemicals, substances, and operations, as well as other safe work practices.
  - 3. All posted safety information and warning signs.
  - 4. The prohibition of the storage, preparation, and consumption of foods and beverages meant for human consumption in areas where chemical and hazardous substances are used and/or stored.
  - 5. Protocols to provide for the safety and health of approved service animals permitted in the laboratories and workshops.
  - 6. University policy upon entering a laboratory; unsupervised access is prohibited unless appropriately authorized by a course instructor or PI.
- b. Obtain appropriate authorization prior to entering areas where hazardous chemicals and substances are used or stored.
- c. Participate in lab safety training prior to entering areas where hazardous chemicals and substances are used or stored.
- d. Wear appropriate personal protective equipment in the prescribed manner in areas where such personal protective equipment is required.
- e. Submit requests to the Dean for the use of any service animals in laboratories and workshops.

## **8.0 Implementing Control Measures**

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Department DSCs and Chemical Hygiene Committees are responsible for identifying hazards within their educational and research programs and implementing control measures to effectively mitigate employee and student exposure to those hazards. The control measures shall be formalized in Department Health & Safety Plans and standard operating procedures for the use of hazardous chemicals, substances, and operations.

### **8.1 Hazard Identification Methods [T8 CCR 5191 (h)]**

Multiple methods should be utilized to identify hazards, including, but not limited to:

#### **a. Inventory and Safety Data Sheet Reviews**

Hazardous chemical and substance inventories will be maintained by each DSC and the inventory status updated annually by August 31st. DSCs will ensure there is an SDS available for every hazardous chemical and substance identified in the inventory. Inventory will be kept using the RSS Chemicals module.

DSCs will review the SDS to identify the hazards associated with the use and storage of the hazardous chemicals and substances and the protective measures identified by the material's manufacturer. This information will be used by the Department DSC and Chemical Hygiene Committee to develop appropriate laboratory-specific control measures.

#### **b. Lab Safety Inspections (See Appendix D)**

The department Chemical Hygiene Committee will conduct documented Lab Safety Inspections to identify hazardous conditions and behaviors. The inspections shall be conducted and scheduled such that all labs in the department are reviewed annually.

The Chemical Safety Committee will use RSS Inspect to conduct the lab safety inspections and involve appropriate employees in the inspection process.

Inspection documentation shall be retained at least one year per CSU Executive Order 1031. Results will be reported to the Dean and S&RM of all inspections conducted since their prior report.

#### **c. Employee and Student Safety Concern Notifications**

Course Instructors, principal investigators, staff, and students shall be encouraged to share environmental health and safety concerns with the DSC, department chemical hygiene committee and/or S&RM, without fear of reprisal. Voiced concerns shall be reasonably and thoroughly reviewed by the appropriate Dean/Chair of the department. Concerns can be submitted through the University [Report a Safety Concern](#) website. S&RM may be asked to review and investigate concerns as well.

If a concern is investigated and confirmed to be accurate, steps shall be taken by the appropriate DSC in conjunction with the department chemical hygiene committee to develop and implement control measures. The control measures developed will be included in the departments Health & Safety Plan. The DSC will inform the employee/student who submitted the concern of the results of the investigation, findings, and further actions.

**d. Incident Investigations**

Safety & Risk Management programs, procedures, and practices are designed to reduce the risk of loss incidents which result in injury, illness, or property damage. When a loss incident does occur, it must be reported through the University [Report an Injury, Illness or Incident](#) website, and will be investigated by S&RM. The Dean and/or Provost will be notified immediately of loss incidents and may participate in loss investigations as appropriate or necessary.

Incident investigations shall be conducted in a manner designed to ensure the identification of the incident's root causes. Control measures shall be developed to prevent a recurrence of the incident. Control measures will be included in the appropriate department Health & Safety Plan.

A written report of the investigation and subsequent control measures shall be submitted to the Dean, Provost, and/or President, if necessary.

**e. Pre-Assignment Health Assessments**

A baseline health assessment will be provided to laboratory personnel who work with chemicals known to be extremely hazardous to their health or that of their unborn children, such as carcinogens or reproductive toxins. Pre-assignment health assessments will establish a baseline health record and provide the basis for counseling employees on health matters related to the work environment. Pre-assignment health assessments may include:

- A work history
- A medical history
- Physical examination
- Appropriate laboratory studies
- Agent specific studies (examinations and/or laboratory tests), when available, to establish baseline values for any variables that are to be subsequently followed

If evidence of any risk factors or pre-existing conditions is confirmed, such as smoking, chronic use of medications, pre-existing disease, or pregnancy, laboratory personnel will be appropriately informed and counseled concerning the advisability of working in areas where the chemicals in question is used.

**f. Employee Medical Monitoring [T8 CCR 5191 (d), (g), & Appendix A (D) (5)]**

Employee medical monitoring will be conducted as needed based on a review of the hazardous chemical and substance inventory, a review of the SDSs, and Cal/OSHA requirements specific to the applicable hazardous chemicals or substances according to the University [Employee Medical Monitoring Program](#). When a department identifies a need for monitoring, he or she will contact S&RM to coordinate the monitoring activities. Monitoring activities include:

1. Initial monitoring. The University measures employee exposure to any substances regulated by a standard that requires monitoring if there is reason to believe exposure levels for that substance exceed the action level (or in the absence of an action level, the exposure limit).
2. Periodic monitoring. If the initial monitoring prescribed by CCR, T8, subsection 5191(d)(1) discloses employee exposure over the action level (or in the absence of an

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action level, the exposure limit), the University will immediately comply with the exposure monitoring provisions of the relevant regulation.

3. Annual monitoring. Monitoring will be performed annually according to relevant regulations.
4. Termination of monitoring. Monitoring will be terminated with an Exit Exam prior to leaving the University or when leaving the department.
5. Employee notification of monitoring results. The University shall, within 15 working days after the receipt of any monitoring results, notify the employee of the results in writing of any further testing that may be needed.
6. Student notification of monitoring results. The Vice President and Provost, Academic Affairs and the Vice President and CFO, Business and Finance will determine on a case-by-case basis when student notification of monitoring results is appropriate and how such notification will be provided.

## **8.2 Exposure Control Measures [T8 CCR 5193 (c) (1)]**

Exposure control measures will be implemented to ensure exposures to Cal/OSHA regulated substances do not exceed the exposure limits specified in California Code of Regulations, Title 8, Group 16, Section 5139 et seq., of the General Industry Safety Orders.

A variety of measures will be used to control exposure to hazardous chemicals and exposures. The College Chemical Hygiene committee will include specific control measures in the departments Health & Safety Plan and standard operating procedures for the use of hazardous chemicals, substances, and operations. Control measures will include, but not be limited to:

### **a. Eliminating or Reducing Hazards**

When reasonably possible, hazards will be eliminated or reduced through the use of alternative chemicals, substances, and/or procedures. Chemicals, substances, and procedures will be assessed during the development and annual review of standard operating procedures. The use of new chemicals and substances will be assessed as described in the Hazardous Materials Management Program.

#### **1. Engineering Controls**

Examples of engineering controls in use at the University include, but are not limited to:

- Local exhaust ventilation
- Laboratory fume hoods
- Biological safety cabinets
- Chemical storage cabinets; i.e., flammable, corrosives, acids
- Cold and warm rooms and equipment; i.e., refrigeration units, incubators, autoclaves
- Emergency response equipment; i.e., eyewash and deluge shower stations, spill kits, fire extinguishers, decontamination kits, radiation monitors, alarm systems

These control measures are described in Section 8.0 of this plan (the Management of Engineering Controls).

## **2. Administrative Controls**

A variety of administrative controls will be used when the use of hazard elimination and/or engineering control does not effectively or reasonably control the hazard exposure.

Administrative controls include, but are not limited to:

### **a) Acquisition of Chemicals and Substances**

Controlling the acquisition of hazardous chemicals and substances is an important component in ensuring a safe and healthful workplace and educational environment. The University shall control the acquisition of hazardous chemicals and substances through the Hazardous Materials Management Program and through appropriate procurement procedures and control of University donations.

### **b) Procurement**

Persons acquiring hazardous chemicals and substances must request or obtain an SDS for the desired chemical/substance. In addition, based on the extreme hazard of the chemical or substance, individuals may be asked to provide supplementary information upon receipt of such chemicals and substances. Additional information may include:

- What quantity of this chemical is on campus?
- Where will it be stored, specifically (room, and location)?
- What is the purpose for its use?
- Who will have contact with this chemical (students)?
- Confirm the appropriate training will be provided for handling this chemical?
- Confirm that appropriate personal protective equipment will be used, as per the SDS.

### **c) Donations**

The acceptance of unauthorized, donated, hazardous chemicals and substances is strictly prohibited. Potential donations of hazardous materials should be reviewed by S&RM.

### **d) Personal Acquisition or Procurement of Hazardous Chemicals and Substances**

Employees (including faculty, staff, principal investigators, and volunteers) and students are prohibited from bringing hazardous chemicals or substances, including consumer products containing hazardous chemicals or substances, onto University property for personal use or for any other purpose, without authorization from S&RM.

### **e) Standard Operating Procedures**

Standard operating procedures for the use of hazardous chemicals, substances, and operations will be developed as specified in Section 10.0 of this plan (Standard

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Operating Procedures). Standard operating procedures will be based on a hazard assessment that identifies necessary or appropriate control measures, as well as relevant, potential hazards.

**f) Authorization for Particularly Hazardous Chemicals, Substances, and Procedures**

Authorization must be obtained prior to the acquisition or use of particularly hazardous chemicals and substances and prior to the use of particularly hazardous procedures as specified in the Section 11.0 of this plan (Particularly Hazardous Chemicals, Substances, and Procedures).

**g) Exposure Monitoring**

Monitoring exposure to hazardous chemicals and substances shall be conducted as described in Section 7.1(f) of this plan. Some procedures may require continual monitoring through the use of sensing devices with or without audible alarms.

Deans, Associate Deans, Department Chairs and DSCs are responsible for ensuring such devices are provided when necessary or appropriate and for ensuring the use of such devices as specified in the standard operating procedures.

**h) Training**

Training and information shall be provided to reasonably ensure that faculty, principal investigators, staff, and students are competent to recognize hazards and take appropriate steps to control exposure to the hazards. Training shall be provided as prescribed Section 13.0 of this plan (Information and Training).

**i) Disciplinary Action**

Employees who fail to comply with University or S&RM Programs and/or Plans or other CSU environmental health and safety programs, policies, and procedures are subject to possible disciplinary action, up to and including termination, in accordance with CSU and Stanislaus State disciplinary policies and the provisions of applicable collective bargaining agreements.

Students who fail to comply with University or S&RM Programs and/or Plans or other CSU environmental health and safety programs, policies, and procedures are subject to possible disciplinary action in accordance with the University's applicable Student Conduct policies.

**3. Personal Protective Equipment (PPE) [Appendix A (D) (6) & (e) (1) (k) of T8 CCR §5191]**

Deans, Department Chairs and DSCs shall ensure that appropriate PPE is made available and appropriately utilized by employees and students. PPE shall be appropriate to mitigate the hazards identified in the SDS, applicable hazard analysis, conducted during

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the development of the applicable standard operating procedures and control measures. Required PPE shall be specified in the standard operating procedures contained in each departments Health & Safety Plan. Informational signs regarding the use of PPE shall be posted in classrooms, laboratories, stockrooms, and waste collection areas.

Employees and students shall be educated and trained in the purpose, limitations, appropriate use of, and means of cleaning the PPE provided.

## **9.0 Management of Engineering Controls [T8 CCR 5191 Appendix A (C)]**

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The University shall utilize appropriate engineering controls to reduce exposure to hazardous chemicals and substances. Appropriate engineering controls will vary and are dependent on the risk and type of exposure and changes in available technology. College Deans, Department Chairs and DSCs shall ensure that appropriate engineering controls are provided. DSCs shall monitor the use and effectiveness of the engineering controls within their department. Examples of engineering controls include, but are not limited to:

- Local exhaust ventilation
- Laboratory fume hoods
- Biological safety cabinets
- Chemical storage cabinets; i.e., flammable, corrosives, acids
- Cold and warm rooms and equipment; i.e., refrigeration units, incubators, autoclaves
- Emergency response equipment; i.e., eyewash and deluge shower stations, spill kits, fire extinguishers, decontamination kits, radiation monitors, alarm systems

### **9.1 Provision of Engineering Controls**

S&RM will:

- a. Develop and maintain an inventory of engineering controls within their area of responsibility.
- b. Ensure engineering controls are assessed annually for performance and adequacy.
- c. Suspend college operations where engineering controls are inadequate.
- d. Provide the College Dean with an annual engineering controls status report identifying the adequacies and deficiencies of department engineering controls.
- e. Collaborate with the College Chemical Hygiene Committee to identify necessary or appropriate changes in the provision of engineering controls.
- f. Collaborate with the Executive Director, Facilities and Service Enterprises, to ensure the completion of an annual inspection of fire extinguishers and fire suppression systems by qualified providers.

### **9.2 Inspection of Engineering Controls**

DSCs will:

- a. Ensure the completion of documented inspections at least once per semester of emergency response equipment with regard to placement, access, and function; emergency response equipment includes, but is not limited to, emergency eyewash and deluge showers, spill kits, fire blankets, fire extinguishers, decontamination kits, and alarm systems.
- b. Ensure refrigeration unit temperature monitoring is conducted, that units are properly labeled, and that units are used in accordance with their labeling.
- c. Collaborate with S&RM to ensure fume hoods are tested and certified annually by a qualified

inspector.

## **10.0 Standard Operating Procedures (SOPs)**

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College operations involving the use of hazardous chemicals or substances vary widely at the University. Therefore, each department shall ensure the development and effective use of college-appropriate SOPs for the use of hazardous chemicals, substances, and for hazardous processes.

SOPs shall be included in the departments Health & Safety Plan. Faculty members, principal investigators, and DSCs shall develop appropriate and effective SOPs and safe work practices for their areas of responsibility, following the format specified in Appendix C. SOPs shall be provided to S&RM attached to the department health and safety plan.

SOPs shall be based on a hazard analysis conducted to identify anticipated and potential health and physical hazards associated with hazardous chemicals and substances, both expected and reasonably unexpected, that may result from the use and handling and storage of chemicals and substances. SOPs shall include a description of appropriate control measures needed or appropriate to eliminate or reduce the risks identified in the hazard analysis.

## **11.0 Particularly Hazardous Chemicals, Substances, and Procedures [T8 CCR 5192]**

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When laboratory procedures include the use of highly hazardous substances, special precautions shall be implemented as deemed necessary or appropriate by the Dean, Department Chair, DSC, and/or S&RM. Special precautions will be developed for work with select carcinogens, reproductive toxins, and substances that have a high degree of acute toxicity or physical hazard. Consideration should be given to the following issues prior to the acquisition of these chemicals or substances:

- Follow the procurement guidelines as described in the Hazardous Materials Management Program
- Establishment of designated areas, appropriate signage and access controls for the use of high hazard chemicals or substances
- Special precautions, such as use of glove boxes or other containment devices
- Enclosure or isolation of contaminated equipment
- The use of effective, best-practice laboratory hygiene
- Safe transportation of very toxic chemicals and substances
- Planning for accidental releases and spills
- Special storage and waste disposal practices

### **11.1 Hazard Communication**

The [Hazard Communication Program](#) identifies the components designed to inform about chemicals or materials in the workplace. Each department or area should have an inventory of all chemicals or materials that are used within their area. Faculty and Staff can access a web-based SDS and use Avery Globally Harmonized System (GHS) Labels.

The inventory must be updated annually by August 31<sup>st</sup>. Review the Safety Data Sheet (SDS) before starting work with a new chemical. Labels are also a critical component of the Hazard

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Communication Program standard. The information required on a label includes the name of the material, the physical hazard, and the health hazard presented by the material. Most original manufacture labels have this information but, if not, an appropriate label must be added as soon as the material is received or transferred to a secondary container.

## 11.2 Hazardous Waste Management

Hazardous wastes are highly regulated and must be handled properly before being disposed of. All hazardous wastes are removed from campus by a certified hauler contracted by the University through S&RM. Department personnel must adhere to the following procedures for hazardous waste:

- a. Hazardous chemical wastes must be kept in closed, appropriately labeled containers which are in good condition.
- b. A correct hazardous waste label must contain the following six (6) pieces of information:
  1. The label must bear the words “HAZARDOUS WASTE”
  2. The label must contain a SPECIFIC DESCRIPTION OF THE WASTE:
    - Chemical name or common name (no formulas or abbreviations)
    - Proportions of constituents or chemical mix (percent, parts per million, molarities, etc.)
  3. The label must contain a STATEMENT OF WHAT THE HAZARD IS:
    - “toxic,” “reactive,” “flammable,” and/or “combustible”
    - “corrosive” (please specify acid or alkaline)
    - “radioactive”
  4. The label must say whether the waste in the container is SOLID, LIQUID OR GAS
  5. The label must list the START DATE for that container of waste (when first amount was added to empty container).
  6. The label must state the NAME AND ADDRESS OF THE GENERATOR. At CSU Stanislaus this means: *“CSU Stanislaus, One University Circle, Turlock, CA 95382.”*
- c. Once a waste container is ready to be disposed of:
  1. Complete a hazardous waste collection form.
  2. Contact S&RM at (209) 667-3057 or email S&RM at [risk@csustan.edu](mailto:risk@csustan.edu).
  3. Coordinate transportation of the properly labeled waste containers to the temporary hazardous waste storage area.
  4. Do not leave waste in any of the waste storage locations without first contacting S&RM (209) 667-3057.

## 11.3 Emergency Response Procedures

In addition to the University’s Emergency Response Plan, each college will develop emergency response procedures specific to its operations and hazards. Deans, Department Chairs and DSCs are responsible for ensuring appropriate emergency response equipment is provided.

Emergency response equipment may include, but is not limited to:

- Emergency eyewash and deluge shower stations
- Spill response kits appropriate to the chemicals likely to be released in the area
- Fire extinguishers appropriate to the chemicals and substances in the area
- Fire blankets

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- Decontamination kits
- Radiation sensors

Faculty, principal investigators, staff, and the DSCs are responsible for:

- a. Ensuring that unimpeded access to emergency response equipment is provided at all times.
- b. Ensuring that emergency response equipment is maintained in a condition that allows for its immediate use.
- c. Ensuring that a list of emergency contact telephone numbers, and the names of the personnel associated with those telephone numbers, is posted in each classroom, laboratory, stockroom, and waste collection area; the list of emergency numbers will include:
  - Emergency Medical Response
  - University Emergency Response Personnel
  - S&RM
  - DSC
  - Poison Control Center
  - Local Fire Authority
  - Local Police Agency
  - Dean

#### **11.4 Other Specific Safety-Related Procedures**

If there is a spill, leak or fire involving hazardous material, the following steps should be taken immediately:

- Evacuate the room (all occupants)
- Close the door(s)
- Pull the nearest fire alarm box on your way out of the building
- If there is no fire alarm pull box in the area, call 9-1-1 from a phone in a safe location, to report the incident.
- If you use a fire extinguisher, call the University Police Department (UPD) as soon as possible to report the fire, 9-1-1.

In case of injury or medical emergency, the following steps should be taken immediately:

- CHECK the scene for safety and assess the situation
- CALL 9-1-1
- CARE with First Aid (if you are trained and have permission)
- If the injury is a result of chemical contact, then immediately flush the affected area with water by faucet, eyewash or shower for at least 15 minutes.

#### **12.0 Medical Monitoring [T8 CCR 5191 (d), (g), & Appendix A (D) (5)]**

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The University shall provide employees who work with hazardous chemicals and substances an opportunity to receive appropriate medical attention, including any follow-up examinations the examining physician determines to be necessary or appropriate, under the following circumstances:

- a. If an employee develops signs or symptoms associated with a hazardous chemical or substance

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to which the employee may have been exposed in the workplace. The DSC and S&RM will ensure that the employee is provided an opportunity to receive an appropriate medical examination.

- b. Where exposure monitoring reveals an exposure level above the action level (or in the absence of an action level, the exposure limit) for a Cal/OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements, S&RM will establish medical surveillance for the affected employee as prescribed by the particular standard.
- c. Whenever an event takes place in the work area such as a spill, leak, explosion, or other occurrence resulting in the likelihood of a hazardous exposure, the affected employee will be provided an opportunity for a medical consultation; such consultation will be for the purpose of determining the need for a medical examination.
- d. As part of the University's [Medical Monitoring Program](#).
- e. When baseline medical examinations are required by applicable Cal/OSHA standards.

S&RM will ensure that all medical examinations and consultations are performed by or under the direct supervision of a licensed physician without cost to the employee, without employee loss of pay, and at a reasonable time and place.

### 12.1 Exposure Control Program [T8 CCR 5193 (c)]

The goal of this program is to limit occupational exposure to blood and other potentially infectious materials since any exposure could result in transmission of bloodborne pathogens which could lead to disease or death. The primary feature of this program is a written Exposure Control Program which incorporates the following major components:

Exposure Determination	Control Methods
Post-Exposure Evaluation and Follow-up	Infectious Waste Disposal
Tags, Labels and Bags	Housekeeping Practices
Laundry Practices	Record Keeping
Training and Education of Employees	Personal Protective Equipment and Students

The written campus Exposure Control Program is [available online at https://www.csustan.edu/safety-risk-management/exposure-control-plan](https://www.csustan.edu/safety-risk-management/exposure-control-plan) which outlines the actions to be taken by the University in response to and prevention of employee and student exposure to infectious materials.

### 13.0 Information and Training [T8 CCR §5191 (f)]

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Information and knowledge are critical to the ability of faculty, staff, principal investigators, and students to identify hazardous situations, and take appropriate, effective action to ensure their safety and health. Therefore, the University and DSCs shall ensure that faculty, staff, principal investigators, and students covered by College and/or University Chemical Hygiene Plan routinely receive adequate and effective safety and health information and training.

#### 13.1 Provision of Information [T8 CCR §5191 (f) (3) (B)]

Safety and health information will be provided on a continuous and routine basis and will include, but shall not be limited to:

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- Access to the University’s health, safety, and compliance programs, including, but not limited to:
  - The Injury & Illness Prevention Program
  - The Chemical Hygiene Plan
  - College Health & Safety Plan
  - The Hazardous Materials Management Program
  - The Hazard Communication Program
- Written, hard copy programs will be available for review in the office of Safety and Risk Management and on the University’s website: <https://www.csustan.edu/safety-risk-management/environmental-health-safety/injury-illness-prevention-program>. Information and warning signs posted in classrooms, laboratories, supply rooms, stockrooms, and waste storage areas. Bulletins, memos, and posters displayed on bulletin boards located in the hallways, offices, classrooms, laboratories, stockrooms, and break areas
- Information distributed electronically
- The names and telephone numbers of current holders of key responsible positions identified in the responsibilities section of the Chemical Hygiene Plan and the Emergency Response Program. This information will be in classrooms, laboratories, stockrooms and break rooms as appropriate

### **13.2 Chemical Hygiene Subcommittee [T8 CCR §5191 (e) (3) (G)]**

S&RM will form a University Chemical Hygiene Sub-Committee to address chemical hygiene concerns that affect the University’s colleges and departments. The University’s Chemical Hygiene Sub-Committee will be comprised of the:

- Director, Safety & Risk Management
- Academic Health & Safety Specialist
- Dean, College of Science
- Dean, College of the Arts, Humanities & Social Sciences
- Director of Facilities Services

S&RM will chair the University Chemical Hygiene Sub-Committee and will ensure the Committee completes its duties as described in this program. The Committee will meet at least bi-monthly. The meeting agendas and minutes will be provided to the Provost, Academic Affairs and the Vice President of Business and Finance.

Each college DSC will form and chair a College Chemical Hygiene Committee to address the chemical hygiene concerns associated with college operations and will ensure the Committee completes its duties as described in this plan. College Chemical Hygiene Committees will meet at least two times per semester, or more often as needed. Meeting agendas and minutes will be provided to the S&RM and shall be posted on the college’s employee bulletin boards.

The college’s Health & Safety Plan will specify the method by which the Chemical Hygiene Committee members will be selected. Each college Chemical Hygiene Committee will be comprised of members equally distributed among the college’s departments and among management, faculty, and staff.

### 13.3 Provision of Training [T8 CCR §5191 (e) (4)]

- a. Laboratory Safety training will be provided on a routine basis, but not less than:
1. At initial assignment and prior to working with hazardous chemicals or substances, or working in areas where hazardous chemicals or substances are stored or used; training will be completed within 14 days of the employee's start date.
  2. When new exposures have been recognized.
  3. When behaviors indicate a need for refresher training.
  4. Lab Safety Fundamentals refresher training will be required every 3-years after initial training is received.

S&RM will ensure the provision of environmental, health and safety training for Department DSCs.

Each DSC will ensure the provision of appropriate environmental health and safety training for the college Dean, faculty, principal investigators, and staff within the college.

Faculty, principal investigators, and staff managers/supervisors shall provide employees and students under their supervision with appropriate and effective training with regard to the University Chemical Hygiene Plan and College Health and Safety Plans including standard operating procedures for the use of hazardous chemicals, substances, and operations.

Training shall be completed within 14 days of employment for employees and volunteers and within 14 days of the start of the semester for students.

#### **b. Chemical Hygiene Training for Faculty, Principal Investigators, and Staff**

Chemical hygiene training for faculty, principal investigators, and staff will include, as a minimum:

1. The contents of the University Chemical Hygiene Plan.
2. The contents of the college's Health and Safety Plan.
3. Personal responsibilities with regard to providing a safe and healthful environment.
4. The contents of CCR, T8, §5191.
5. Where and how to access the Chemical Hygiene Plan documents.
6. The exposure limits for the Cal/OSHA regulated substances and/or recommended exposure limits for other hazardous chemicals where there is no applicable Cal/OHSA regulation specific to chemicals and substances with which they will work.
7. The signs and symptoms associated with exposure to the hazardous chemicals used in their laboratories, classrooms, stockrooms, and waste storage areas.
8. The location and availability of known reference materials on the hazards, safe handling, storage, and proper disposal of hazardous chemicals found in their laboratories, including, but not limited to SDS received from chemical suppliers.
9. The physical and health hazards associated with the chemicals and substances in use in their classrooms, laboratories, stockrooms, and waste storage areas.
10. The measures they can use to protect themselves from identified hazards, including, but not limited to, standard operating procedures; safe work practices; engineering controls (and how to use those controls); emergency procedures; as well as the

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purpose, limitations, use and care of PPE.

11. The methods and observations used to effectively detect the presence or release of a hazardous chemical or substance, including but not limited to:
  - Any formal monitoring conducted
  - Use of continuous monitoring devices, and
  - The visual appearance or odor of hazardous chemicals when being released

Lab Safety Fundamentals training must be refreshed every 3-years following the initial course. Additional safety and health training shall be provided regarding associated environmental health and safety compliance programs as specified within those compliance programs.

**c. Chemical Hygiene Training for Students**

Students shall receive lab safety training from faculty regarding standard operating procedures for the use of hazardous chemicals, substances, and operations; safe work practices; basic chemical hygiene plan compliance; and other associated environmental health and safety topics. Training must be completed within 14 days of the start of the semester.

**d. Training Documentation [T8 CCR §5191 (j) (2)]**

All training will be documented in writing, including the date of training, summary of the training content, name of the trainer, and identification of attendees (name, employee ID if applicable, and signature or digital record). Training records will be retained for at least three years.

Each department DSC will be responsible for:

1. Maintaining training documentation for the training conducted for his or her Dean, faculty, principal investigators, and staff.
2. Providing semester training status reports to S&RM.
3. Maintaining training documentation for students and providing a summary report to S&RM when requested.

**14.0 Record Keeping [CSU Executive Order 1031] [T8 CCR §5191 (j)]**

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Each department DSC is responsible for maintaining the records that document the steps taken to comply with the University Chemical Hygiene Plan and the College Health and Safety Plan. S&RM will monitor the maintenance of those records.

Each organizational unit is responsible for maintaining its records and the reports it receives. Records will be stored in a secure location and will be accessible, on demand, to ensure the information is immediately available to the Dean and S&RM.

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Records will be maintained in accordance with the following table:

<b>Document</b>	<b>Minimum Length of Retention</b>
IIPP & Safety Inspections	One year
Employee Training	Three years
Enrolled Student Training	Three years
Employee Medical Records	30 years after the separation of employment
Incident Investigation	30 years after the separation of employment

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**Appendices**

Appendix A – Chemical Health & Safety Plan Template

Appendix B – Laboratory Access Authorization Form

Appendix C – Standard Operating Procedures Outline

Appendix D – Safety Inspections

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**Appendix A – Chemical Health & Safety Plan Template**

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This template is intended to help you create a plan relevant and helpful to your operation. The Chemical Health & Safety Plan “TEMPLATE” can be located at: <https://www.csustan.edu/safety-risk-management/chemical-hygiene-lab-safety>.

Each department must have its own Chemical Hygiene Plan and Injury & Illness Prevention Program that describes its specific rules and procedures as a supplement to the University Chemical Hygiene Plan. This TEMPLATE of a Chemical Health and Safety Plan fulfills both requirements.

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**Appendix B – Laboratory Access Authorization Form**

CALIFORNIA STATE UNIVERSITY, STANISLAUS  
COLLEGE OF SCIENCE  
LABORATORY ACCESS AUTHORIZATION FORM

The laboratories at California State University, Stanislaus ("University") are open during the scheduled laboratory class periods to enable students to conduct the laboratory experiments under the supervision of a faculty or staff member to ensure safety.

In order for a student or a visitor (i.e., research collaborator, volunteer, or other persons who are not paid or are not employees of the University) to have unsupervised access to laboratories ("Lab User"), the appropriate faculty or staff ("Lab Supervisor") must submit the completed request below to the College of Science Dean's Office no later than seven (7) calendar days prior to the first date of unsupervised lab access.

The faculty member who authorizes access to a lab (Lab Supervisor) is primarily responsible for the person or persons who are given access. The Lab Supervisor must ensure that the Lab User receives appropriate safety training and training in the specific activities and equipment.

**REQUEST FOR UNSUPERVISED LABORATORY ACCESS**

I, \_\_\_\_\_, (Laboratory Supervisor or Program Director), request unsupervised access for the student/visitor \_\_\_\_\_, ("Lab User") during the hours of \_\_\_\_\_ for the laboratories specified below.\*

The Lab User has received proper safety and equipment training including (list all training completed by the student, and cite how it has been documented e.g.; signed training record on file with Biology Department):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Justification for Special Access: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Description of unsupervised activity that will be performed: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date(s) and time(s) of unsupervised access: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Building and lab room number(s): \_\_\_\_\_

\_\_\_\_\_  
Authorizing Faculty or Staff Name (print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Department Chair Name (print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\*Hours cannot conflict with the University Facility Use Policy, Section V. N. 1.

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**LAB USER DECLARATION OF COMPLIANCE FORM**

The undersigned Lab User declares that I 1) have received and successfully completed the safety training specified above, and 2) agree to abide by the responsibilities stated in the University's policies and procedures.

**RELEASE OF LIABILITY, PROMISE NOT TO SUE, ASSUMPTION OF RISK AND AGREEMENT TO PAY CLAIMS**

In consideration for being allowed to participate in this Lab Activity, on behalf of myself and my next of kin, heirs, and representatives, I release from liability and promise not to sue the State of California, the Trustees of The California State University, California State University, Stanislaus, and their employees, officers, directors, volunteers and agents (collectively "University") from any and all claims, including claims of the University's negligence, resulting in any physical or psychological injury (including paralysis and death), illness, damages, or economic loss or emotional loss I may suffer because of my participation in this Lab Activity, including travel to, from and during the Lab Activity.

I am voluntarily participating in this Lab Activity. I am aware of the risks associated with traveling to/from, participation in this Lab Activity, which includes but are not limited to physical or psychological injury, pain, suffering, illness, disfigurement, temporary or permanent disability (including paralysis), economic or emotional loss, and/or death. I understand that these injuries or outcomes may arise from my own or other's actions, inaction, or negligence; conditions related to travel, and dancing; or the condition of the Lab Activity location(s) or facilities. Nonetheless, I assume all related risks, both known or unknown to me, of my participation in this Lab Activity, including travel to, from and during the Lab Activity.

I agree to hold the University harmless from any and all claims, including attorney's fees or damage to my personal property, which may occur as a result of my participation in this Lab Activity, including travel to, from and during the Lab Activity. If the University incurs any of these types of expenses, I agree to reimburse the University. If I need medical treatment, I agree to be financially responsible for any costs incurred as a result of such treatment. I am aware and understand that I should carry my own health insurance.

I am 18 years or older. I understand the legal consequences of signing this document, including (a) releasing the University from all liability, (b) promising not to sue the University, (c) and assuming all risks of participating in this Lab Activity, including travel to, from and during the Lab Activity.

I understand that this document is written to be as broad and inclusive as legally permitted by the State of California. I agree that if any portion is held invalid or unenforceable, I will continue to be bound by the remaining terms.

I have read this document, and I am signing it freely. No other representations concerning the legal effect of this document have been made to me.

\_\_\_\_\_  
Lab User Name (print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Appendix C – Standard Operating Procedures Outline

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### INSTRUCTIONS FOR COMPLETING STANDARD OPERATING PROCEDURES

Each department Health and Safety Plan shall include standard operating procedures (SOP) for the hazardous chemical, hazardous substance, and hazardous operations used in the department. Faculty, principal investigators, and staff managers should work with their college's Chemical Hygiene Committee, department DSC and Safety and Risk Management in the development of SOPs.

Below are instructions for completing laboratory specific SOPs with a corresponding template. Please contact S&RM with any questions or comments you may have while completing your SOPs. Completed SOPs are reviewed by the department DSC.

#### 1. Type of SOP

Specify the type of SOP at the top of the document. There are three types of SOPs:

- **Process:** This SOP will be for a particular process such as distillation, synthesis, etc.
- **Hazardous chemical:** This SOP will be for an individual chemical such as arsenic, formaldehyde, nitric acid, etc.
- **Hazard class:** This SOP will be for a hazard class of chemicals such as oxidizer, flammable, corrosive, etc.

#### 2. Describe the Process, Hazardous Chemical, or Hazard Class

- **Process:** Briefly describe the process and name all the hazardous chemicals or substances used in the process
- **Hazardous chemical:** Provide the name of the chemical. Include the chemical abstract service number, the full name, the common name, and any abbreviations used for the chemical.
- **Hazard class:** Name the hazard class and list the names of the chemicals in this hazard class used or stored in your laboratory

#### 3. Potential Hazards

In this section, describe:

- All the potential for both health and physical hazards for each process, hazardous chemical, or hazard class
- For health hazards include:
  - Acute toxicity (any route of exposure)
  - Skin corrosion or irritation
  - Serious eye damage or eye irritation
  - Respiratory or skin sensitization
  - Germ cell mutagenicity
  - Carcinogenicity
  - Reproductive toxicity
  - Specific target organ toxicity (single or repeated exposure)
  - Aspiration hazard
- The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A of the Hazard Communication Standard (Section 5194) and Section 5194(c) (definition of "simple asphyxiant").
- The potential for chronic and/or acute health hazard effects of the chemical(s).

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- Physical hazards include:
  - Explosive
  - Flammable (gases, aerosols, liquids, or solids)
  - Combustible liquid
  - Oxidizer (liquid, solid, or gas)
  - Self-reactive
  - Pyrophoric (gas, liquid or solid)
  - Self-heating
  - Organic peroxide
  - Corrosive to metal
  - Gas under pressure
  - In contact with water emits flammable gas
  - Water-reactive
  - Combustible dust
  - The criteria for determining whether a chemical is classified as a physical hazard are in Appendix B of the Hazard Communication Standard (Section 5194) and Section 5194(c) (definitions of “combustible dust,” “combustible liquid,” “water-reactive” and “pyrophoric gas”)
  - Radioactivity
  - Cryogenic
  - High temperature reactions
  - Electrical
  - UV light
  - Ionizing radiation
  - Laser
  - Unstable

**4. Circumstances Requiring Prior Approval for Particularly Hazardous Chemicals or Processes**

Discuss the circumstances under which this particular process, hazardous chemical, or hazard class will require prior approval (if any) from the Dean, principal investigator/laboratory coordinator, or Chemical Hygiene Officer. Consideration will be given to the following list of provisions when the special procedures are developed:

- Establishment of a designated area for the use of the high hazard chemicals and substances.
- Signage and access control to the work area where the chemical or substance is used.
- Special precautions, such as use of glove boxes or other containment devices.
- Enclosure or isolation of contaminated equipment.
- Practicing good laboratory hygiene.
- Safe transportation of very toxic chemicals and substances.
- Planning for accidental releases and spills.
- Special storage and waste disposal practices.

Some examples of circumstances that may require prior approval include unattended or overnight operations, use of explosives or pyrophorics, use of highly toxic gas in any amount, use of large quantities of toxic or corrosive gases or use of carcinogens.

**5. Personal Protective Equipment (PPE)**

Identify the required PPE for the process, hazardous chemical, or hazard class. PPE includes, but is

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not limited to, gloves, aprons, laboratory coats, safety glasses, chemical splash goggles, masks, respirators, face shields, and lead aprons.

**6. Engineering Controls**

Describe or list the engineering controls that will be used to prevent or reduce employee exposure to hazards. Examples of engineering controls include, but are not limited to, fume hoods, target fume extractors, glove boxes, interlocks on equipment, and shielding devices.

**7. Special Handling and Storage Requirements**

- Describe the handling and storage requirements for hazardous substances including, but not limited to:
  - special containment devices
  - special temperature requirements
  - special storage areas or cabinets
  - chemical compatibility storage requirements
- State the policy regarding access to the substance(s).
- Provide the exact storage location in the laboratory.
- Describe any special procedures, such as:
  - recording the date chemical received
  - opening
  - disposal
  - testing after an appropriate amount of time has passed
  - safe methods of transport, such as:
    - in a secondary container
    - low, stable cart
    - using two hands to carry the chemical container

**8. Spill and Accident Procedures**

Describe special procedures for spills, releases, and/or exposures. Indicate how spills, accidental releases and exposures will be handled. List the location of the following emergency equipment, including but not limited to:

- chemical spill clean-up kit
- first aid kit
- emergency eyewash and deluge shower
- fire blanket
- fire extinguisher

**9. Decontamination Procedures**

Describe specific decontamination procedures for contaminated equipment, glassware, and/or work areas.

**10. Waste Disposal Procedures**

Describe:

- the anticipated waste and byproducts
- how and where the waste will be collected
- how and when the waste will be disposed

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**11. Designated Area**

Indicate the designated area established for experiments using particularly hazardous substances and/or procedures will be conducted. Be specific, such as a portion of a laboratory bench, a piece of equipment, the fume hood, or the entire laboratory.

**12. Safety Data Sheet (SDS) Location**

Describe where:

- SDSs for the chemicals and hazardous substances are kept.
- Where other pertinent safety reference materials and information are located.

**13. Protocols**

Insert a copy of, or describe in detail, your specific laboratory procedures for the process, hazardous chemical, or hazard class.

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**SOP TEMPLATE**

**Standard Operating Procedures**

Department: \_\_\_\_\_ Date: \_\_\_\_\_

Principal Investigator: \_\_\_\_\_

Chemical Hygiene Officer: \_\_\_\_\_

Laboratory Phone: \_\_\_\_\_ Office Phone: \_\_\_\_\_

Emergency Contact: \_\_\_\_\_

*(Name and Phone Number)*

Location(s) covered by this SOP: \_\_\_\_\_

*(Building/Room Number)*

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**1. Type of SOP (check one)**

Process       Hazardous Chemical       Hazard Class

**2. Describe Process, Hazardous Chemical or Class:**

**3. Potential Hazards:**

**4. Circumstances Requiring Prior Approval:**

**5. PPE:**

**6. Engineering Controls:**

**7. Special Handling & Storage Requirements:**

**8. Spill & Accident Procedures:**

**9. Decontamination Procedures:**

**10. Waste Disposal Procedures:**

**11. Designated Area:**

**12. SDS (MSDS) Location:**

**13. Protocol(s):**

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**Appendix D - Safety Inspections**

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The entire campus is subject to periodic inspection and review. Those areas with the greatest potential for problems will be inspected with greater frequency. Every workplace shall be inspected on a regular basis. Those areas with potentially greater hazards will be inspected more frequently as necessary by request, new equipment, through risk assessments.

The inspections may be conducted by departmental members, safety committee members, and/or S&RM. Inspection records will be conducted and maintained within the RSS Inspect module.

**1. Scheduled Safety Inspections**

- a. It is the responsibility of each department to ensure that a regular and systematic inspection process be scheduled for all departmental areas.
- b. The frequency of safety inspections varies by regulation and equipment maintenance requirements.
- c. Additional inspection checklists are available from Risk Safety Solutions (RSS); contact S&RM for information.

**2. Unscheduled Workplace Inspections**

- a. Departments will conduct, or have conducted, an inspection whenever new substances, processes, procedures or equipment which represents a new occupational safety and health hazard are introduced.
- b. Departments will conduct an inspection whenever notification of a new or previously unrecognized hazard is received.
- c. S&RM will conduct periodic unscheduled inspections to help ensure the maintenance of a safe and healthful workplace.
- d. S&RM, in conjunction with departmental representatives, will conduct a health and safety inspection in the event of an occupational injury, occupational illness, or exposure to hazardous substances as defined by Cal/OSHA.