



## Personal Protective Equipment - Laboratories

Section: 1T

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Revised By: RF

### I. AUTHORITY

1. [California Code of Regulations](#)– Title 8. Subchapter 7. General Industry Safety Orders – Group 2. Safe Practices and Personal Protection – Article 10. Personal Safety Devices and Safeguards – Personal Protective Devices §3302, §3380-3385, & §3387.
2. [California Code of Regulations](#)– Title 8. Subchapter 7. General Industry Safety Orders – Group 16. Control of Hazardous Substances – Article 109. Hazardous Substances and Processes - §5194, Hazard Communication & §5191, Hazardous Substances & Processes.
3. [California Code Of Regulations](#) – Title 8. Subchapter 7 General Industry Safety Orders – Group 1. General Physical Conditions and Structure Orders – §3203 Injury and Illness Prevention Program.
4. CSU Executive Order 1039

### II. STATEMENT

CSUSM is committed to providing a healthy and safe working environment for all members of the campus community. It is University policy to comply with all applicable health, safety and environmental protection laws, regulations and requirements. The Occupational Safety and Health Administration (OSHA) ensures workplace safety through the enforcement of established federal legislation, and the California Occupational Safety and Health Administration (Cal OSHA) operates as the acting regulatory enforcement body under the direction of the OSHA act.

Title 29 of the Code of Federal Regulations, Part 1910, Subpart 1. *Personal Protective Equipment*, states that “protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.” Pursuant to this regulation, and in an effort to prevent workplace injuries and illnesses, CSUSM has established this procedure regarding Personal Protective Equipment (PPE) requirements for all campus research laboratory faculty, staff and students.

### III. RESPONSIBILITIES

Preventing workplace injuries and illnesses is the responsibility of every member of the campus community. Specific responsibilities are assigned to higher level members of the research and teaching community in order to implement and ensure compliance with this procedure by their staff or direct reports.

**The President** has overall responsibility and authority for compliance with health and safety requirements at all facilities and programs under campus control.

**The Dean of Graduate Studies and Research (Institutional Official) & the Dean of the College of Science and Math** are responsible for the implementation and enforcement of this procedure in all applicable research and instructional laboratories within each Dean's college. The Deans are also responsible for ensuring that a link to this procedure is electronically delivered to impacted faculty each semester.

**The CSUSM Chemical Hygiene and the Institutional Biosafety Committees** are responsible for promoting a safe working environment in all research and instructional laboratories on campus. The purpose of the Chemical Hygiene and Institutional Biosafety Committee are to oversee the implementation of our Chemical Hygiene Plan and the Exposure Control Program which shall stipulate all work practices, policies and procedures intended to minimize hazardous chemical, biological and physical exposure to laboratory workers primarily and students per EO 1039.

**Department Chairpersons** are responsible for communicating, promoting and have the authority to provide direction regarding the procedure in their respective research and instructional areas. The Department Chairperson has the authority to refer unsafe practices and personnel non-compliance to the Dean.

**Principal Investigators, Faculty and laboratory management staff** are responsible for complying with this procedure. The Department Chairperson will oversee such compliance. They will also ensure that their staff and students receive appropriate training and comply with this procedure, as it relates to their research and instructional activities.

**All staff members working in laboratory areas** are responsible for following laboratory safety requirements and for wearing PPE as outlined in this procedure and in laboratory-specific safety training.

**The Office of Safety, Health & Sustainability (SH&S)** is responsible for inspection of laboratories, assessment of risks, providing guidance on the implementation, and has the authority to enforce this procedure. The related process for consultation, risk assessments, and audits by SH&S is set forth in the Chemical Hygiene Plan. In cases where laboratory activities pose an immediate danger to life or health, designated SH&S staff have the responsibility and authority to order the temporary cessation of the activity until the hazardous condition is abated.

#### **IV. SAFETY REQUIREMENTS**

The following requirements pertain to all research and instructional laboratory environments utilizing hazardous chemical, biological or unsealed radiological materials (see section V., below). The requirements do not apply to those research and instructional laboratories that involve solely mechanical, computer, laser, other non-ionizing radiation, or electrical operations; these hazards will be addressed under separate procedures, as appropriate. In addition, these

requirements will not apply to laboratories which have been designated as non-hazardous materials use areas. In order to qualify as a non-hazardous materials use area, a laboratory must obtain approval and appropriate labeling from SH&S. SH&S, in cooperation with regulation mandated safety committees, has the final authority for determining whether any specific material is classified as hazardous. Deviations from these requirements, including the defining of specific hazardous materials use areas within rooms, may be permitted under certain conditions and will require express, written approval from SH&S.

**A. Body Protection:** Full length pants, full length skirts, or equivalent, and close-toed shoes must always be worn by all individuals that are occupying the laboratory area, except for those in areas designated by SH&S as clean areas. The area of skin between the shoe and ankle should not be exposed. This will be determined by the Principal Investigator/Faculty member/Instructor.

**B. Hand Protection:** Protective gloves must be worn while utilizing any hazardous chemical, biological or unsealed radiological material. These gloves must be appropriate for the material being used. The Safety Data Sheet (SDS) for the material should be referenced when determining the effectiveness of the type of glove to be used. Additionally, the SH&S website offers guidance on glove selection based on material handling as well as links to other resources. This requirement does not apply when working with non-hazardous materials and an open flame or other heat source that might cause injury by melting plastic gloves.

**C. Body Protection:** Laboratory coats, or equivalent, are required to be worn while working on, or adjacent to, all bench top procedures utilizing hazardous chemical, biological or unsealed radiological materials. Laboratory coats must be appropriately sized for the individual and be buttoned to their full length. Laboratory coat sleeves must be of a sufficient length to prevent skin exposure while wearing gloves. Flame resistant laboratory coats must be worn when working with pyrophoric materials or flammable liquids near ignition sources. Flame resistant laboratory coats must be worn when working with flammable liquids in amounts that pose a greater than de minimis risk as determined by a risk assessment. It is recommended that cotton (or other non-synthetic material) clothing be worn during these procedures to minimize injury in the case of a fire emergency.

**D. General Hygiene Protection:** Laboratory coats may not be worn outside of a laboratory unless the individual is traveling directly to an adjacent laboratory work area, transporting hazardous materials, or attending an organized event that require laboratory coats be worn, such as Super STEM Saturday. Protective gloves must not be worn in any public area outside of the laboratory (i.e., hallways, elevators, offices), unless the individual is traveling directly to an adjacent laboratory work area or transporting hazardous materials. Gloves must also be removed prior to handling any equipment that could likely result in cross-contamination (e.g., telephones, computer work stations, etc.). Each department or research unit shall be responsible for providing professional laundry services as needed to maintain the hygiene of staff and faculty laboratory coats. They should not be cleaned by staff members, at private residences or public laundry facilities. Any clothing that becomes contaminated with hazardous materials must be decontaminated before it leaves the laboratory. If a laboratory coat owned by a student is contaminated with hazardous materials, the student, or any faculty or staff member aware of the

spill, should contact the Office of Safety, Health & Sustainability for assistance with decontamination.

**E. Eye/Face Protection:** Eye protection or equivalent engineering controls must be used while handling hazardous chemical, biological or unsealed radiological materials. All eye protection equipment must be American National Standards Institute (ANSI) approved and appropriate for the work being done.

**F. General Hygiene Protection:** Some operations and procedures may warrant further PPE, as indicated by the SDS, the standard operating procedures for the material being used, regulatory requirements, Faculty or SH&S representative's requirements.

## V. DEFINITIONS OF HAZARDOUS MATERIALS

The following materials are defined as hazardous for the purposes of this procedure:

1. Any unsealed radioactive material.
2. Biological materials in the BSL-2 Category, or greater.
3. Chemicals listed as Select Carcinogens and Regulated Carcinogens. (See the [Cal/OSHA criteria](#) for select carcinogens).
4. Chemicals listed as Reproductive Toxicants. (See [OEHHA list of reproductive toxicants and carcinogens](#) identified under California Proposition 65).
5. Chemicals listed as Toxic or Highly Toxic. (See [OSHA guidance on identifying Highly Toxic Chemicals](#))
6. Flammable, air reactive, or water reactive chemicals.
7. Corrosive chemicals in concentrations of one (1) molar or greater.
8. Controlled Substances.
9. Liquid Nitrogen and any other compressed gas that represents a physical hazard.
10. Known significant skin or eye irritants.

This list is to be used as a procedural document and allows for some laboratories to be classified as non-hazardous materials laboratories. It does not supersede Cal OSHA regulations or accepted safe work practices for specific materials. PPE and other safety measures, as appropriate, must be used to protect workers from any and all known hazards that are present in all work-related activities at CSUSM. Refer to SH&S for additional guidance per the California Code of Regulations in developing protective measures for laboratory use of hazardous materials.