

UC Irvine Environmental Health & Safety

SECTION:	TITLE: Research Laboratory and Personal Protective Equipment
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1. Program Description

In order to protect the health and welfare of faculty, staff, students, visitors and volunteers and to strive towards compliance with state, federal and local regulations; appropriate protective equipment is required in areas where there may be a risk of injury or exposure to hazardous substances or conditions. This program contains general requirements to protect University researchers from various hazards encountered in their laboratory areas/spaces.

The use of Personal Protective Equipment (PPE) is often required to augment engineering or administrative controls or is used as a stand-alone control when engineering and administrative controls are not feasible. When properly selected and used, personal protective equipment can be effective in eliminating or minimizing individual exposures to hazardous materials and physical hazards encountered in many different laboratory environments.

The PPE program is designed to:

1. Establish requirements for workplace PPE assessments, training, provision, use and maintenance/replacement/disposal of PPE.
2. Assign responsibilities for program implementation to all stakeholders regarding PPE management.
3. Comply with California Occupational Safety and Health (Cal/OSHA), 8 CCR 3380, Personal Protective Devices and other regulations.
4. Comply with the University of California, Office of the President (UCOP) PPE policy

2. Scope

The use of appropriate personal protective safety equipment applies to faculty, staff, students, visitors and volunteers who are performing tasks or entering in areas that require specific PPE. This program also applies to students enrolled in academic courses in which PPE is required by the instructor and /or indicated in the course syllabus.

3. Definitions

Academic courses which include laboratory, shop or field work: are required to indicate PPE requirements (including specifications of the type of PPE) as part of the course syllabus. The PPE items shall be the responsibility of the student to obtain and wear as part of the class. Common communal PPE such as thermal protective gloves, welding aprons, face shields, etc., will be provided by the sponsoring Department. The instructor of record for a course, or designee, is responsible for ensuring that students are familiar with and properly using required protective devices

Attire when occupying a Laboratory/Technical Area:

Full length pants (or equivalent) and closed toe/heel shoe attire must be worn at all times by all workers and students who are occupying or entering a laboratory/technical area. The area of skin between the pants and shoe should not be exposed.

EH&S PPE Laboratory Coordinator: Responsible individual for administrating the selection, fitting, laundering and dispersion of Laboratory PPE on campus.

Hazard: a potential for harm. The term is often associated with an agent, condition, or activity (a natural phenomenon, chemical, mixture of substances, process involving substances, source of energy or a situation or event) that if left uncontrolled, could result in an injury, illness, loss of property or damage to the environment. Hazards are intrinsic properties of agents, conditions or activities.

Hazard Analysis: a term used to express the complete process of hazard identification, evaluation and control.

Hazard Control: a barrier; such as a device, measure or limit; used to minimize the potential consequences associated with a hazard.

Hazard Evaluation: the qualitative and, whenever possible, quantitative description of the inherent properties of an agent or situation having the potential to cause adverse effects.

Hazardous Materials: Chemical or biological agents that have been generally accepted as a health or physical hazard. Unsealed radioactive materials are also included as “hazardous materials.” Additional guidance is included in the UCOP PPE policy - Appendix A <http://policy.ucop.edu/doc/3500597/PersonalProtectiveEquip>.

Job Hazard Analysis: a systematic approach to address hazards by looking at a task and focusing on the relationship between the laboratory worker, the task, the tools and the work environment to identify the hazards and reduce the risks.

Laboratory Coat Laundry Service: There are eight sites on campus for workers to drop off their dirty lab coats for laundering and pick-up when clean. Each coat will be marked with the coat’s unique identifier number and the individual’s name. Your cleaned coat will be returned to the one site that you designate.

Laboratory Hazard Assessment Tool (LHAT): This is an online tool for supervisors and employees to use, which identifies the PPE needs for their laboratory workers. The LHAT can only be accessed via an individual’s UCI’s net ID and password. <https://ehs.ucop.edu/lhat/> (link is external). The LHAT provides a summary of the laboratory/technical areas PPE needs and provides/documents training on basic lab coat and eyewear use and maintenance. LHAT allows a research worker to manage their activities in the lab or technical research area in a way that permits them to ensure safe research.

Laboratory/Technical Areas: is a location where the use or storage of hazardous materials occurs or where equipment may present a physical or chemical hazard. It includes, but is not limited to:

Research laboratories	Waste accumulation areas/locations
Teaching laboratories	Cold rooms
QA/QC and analytical laboratories	Machine and other workshops
Stock rooms	Vivaria
Storage rooms	Visual/performing arts studios and shops

Personal Protective Equipment (PPE): Personal protective equipment is worn to minimize exposure to a variety of hazards. Examples of PPE include such items as lab coats, gloves, foot protection (steel-toed shoes), eye protection (safety glasses or goggles), protective hearing devices (earplugs, muffs), hard hats, respirators, fall protection harnesses, etc.

Body Protection: Protective clothing, such as lab coats, should be worn when handling hazardous materials. This will prevent the contamination of skin and clothing.

Eye/Face Protection: Equipment designed to provide protection to the face and eyes during exposure to such hazards as flying particles, molten metal or sparks, liquid chemicals, acids or caustic liquids or potentially injurious light radiation (i.e., lasers, welding, etc.)

Foot Protection: Equipment designed to provide protection to the feet and toes during exposure to situations with the potential for foot injuries such as falling or rolling objects, chemical or liquid exposures, piercing objects through the sole or uppers and/or where the employee's feet are exposed to electrical hazards.

Hand Protection: Equipment designed to provide protection to the hands during exposure to potential hazards such as sharp objects, abrasive surfaces, temperature extremes and chemical contact. Hand protection is selected based upon the hazard and performance characteristics of the gloves. (e.g. the Safety Data Sheets (SDSs) for the material should be referenced when determining the type of glove to be used. The manufacturer for specific glove guides should also be consulted to determine appropriate glove type).

Physical Hazards: Physical hazards are identified as substances, equipment or activities that can threaten physical safety. Physical hazards can include but are not limited to: impact (falling objects), fall hazards, extreme pressures, temperature extremes (heat/cold), radiation (ionizing and non-ionizing), noise, vibration, electrical, light (optical), welding, cutting and brazing.

Risk: Takes into account the probability or likelihood that a consequence will occur and the severity of the consequence should it occur. An unlikely hazard with the potential to cause death is a higher risk than an unlikely hazard which would cause temporary illness.

Standard Operating Procedures (SOPs): a written series of steps that can be followed to correctly and safely obtain a desired outcome. In laboratories, SOPs are typically developed for repetitive procedures which are known to have associated hazards where

injury, property loss or productivity loss could result if the steps are not followed precisely.

Student: An individual enrolled in an academic class where hazardous materials are handled and stored.

Supervisor: An employee who may have authority to hire personnel, evaluate performance, direct work assignments, apply progressive discipline and direct resources to correct identified safety issues. This includes a Principal Investigator (PI), area manager, unit manager, project manager, superintendent and foreman/person. Unless specified in writing, the default “supervisor” in laboratory/technical areas is the Principal Investigator. Throughout this documents, the term supervisor refers to any of the following roles PI/ Laboratory Supervisor/Teaching Assistant titles/ Responsible Person for the activities in the laboratory.

Use or Storage: For the purposes of this program, “use or storage” includes those operations where workers are directly manipulating hazardous materials, adjacent to or in proximity to a hazard or in areas where there is a reasonable risk of exposure. Reasonable risk of exposure includes all activities identified in the hazard assessment that pose an exposure risk to the worker.

Worker: This is an individual who actively performs work functions with hazardous materials or equipment in a laboratory/technical area. A “worker” may be faculty, staff, student volunteers assisting in a non-academic class, or visitors/visiting scholars. For the purpose of this definition, “worker” excludes individuals who only passively participate in tours, lectures, conferences, etc. All UCI laboratory workers are required to certify the LHAT.

Teacher Assistant (TA): An academically qualified and registered graduate student in full-time residence chosen for excellent scholarship and for promise as a teacher, who is assigned to assist in the delivery of instruction under the active supervision of a faculty member. A majority of graduate students who perform instructional functions are assigned to the Teaching Assistant title, their responsibilities are “to assist the supervising faculty member by conducting discussion, laboratory or quiz sections that supplement faculty lectures or assist in the instruction of any lower-division course or may be assigned to conduct the entire instruction of a lower-division course. In academic courses Teacher Assistants may be placed in the position of authority for a classroom and conduct instruction for a course.

4. Responsibilities

Campus Chancellor: has overall responsibility for compliance with health and safety requirements at all facilities and programs under her/his control.

Vice Chancellors/Directors/Deans/Departments Chairs: are responsible for communicating and promoting this program within their unit and enforcing the Policy in

areas under their control.

Department Requirements: Each department may disseminate and enforce more stringent PPE requirements than those identified by the laboratory or unit's work area through the hazard assessment or Standard Operating Procedures (SOP's) (e.g., requiring lab members to don lab coats and safety eyewear at the threshold of labs).

Departmental Support: Supporting the Supervisor/Principal Investigator (PI)/Lab Supervisor/Faculty/ Lecturer/ TA, or his/her designee by implementing department-wide programs and/or services (e.g., acquisition of lab coat laundering services, requiring safety data sheets for academic courses as part of the syllabi).

Campus, Academic Schools, Laboratories and/or Chemical Safety Committee: is responsible for promoting a safe working environment in all research and teaching laboratories on campus.

Supervisors: are responsible for complying with this policy, ensuring their staff complies with this policy and performing Hazard Assessment to identify the proper PPE needed through completion of the LHAT. Supervisors are also responsible for ensuring their staff receives both the required PPE identified in the hazard assessment, and documenting their training on the proper use of their PPE. Noncompliance with the policy is handled in accordance with Personnel Policies for Staff Members (PPSM) policies 62-65 pertaining to disciplinary actions; Academic Personnel Manual (APM) policies 015- 016 pertaining to the Faculty Code of Conduct and administration of discipline; and APM 140 and 150 pertaining to Non-Senate Academic Appointees.

Workers: are responsible for knowing the PPE requirements for areas in which they work or enter, and for properly wearing PPE as established in this policy and in the hazard assessment. All workers are responsible for completing training and certifying through the LHAT system and for knowing how to use PPE, how to properly put on and take off required PPE and how to care for and maintain PPE. They are responsible for informing others in the area of these requirements and reporting unsafe conditions to their supervisor or EH&S. Workers are responsible for notifying the supervisor if the hazards of the task change and wearing only the PPE assigned for a specific job assignment. Workers are not responsible for purchasing their own PPE. As applicable, a staff employee may address issues of noncompliance with this Policy through the complaint resolution processes described in PPSM 70 and II-70 (Complaint Resolution) and PPSM 71 and II-70 (Resolution of Concerns) or Collective Bargaining Agreement. Workers are responsible for consulting the Safety Data Sheets when handling hazardous materials. Safety Data Sheets provide and list the appropriate safety equipment needed when handling a hazardous material.

Training: Completing site-specific PPE training provided by the supervisor which

includes demonstrating the ability to use PPE properly and certifying the hazard assessment through the LHAT.

Use: Using correct and properly fitted PPE under the conditions identified by the supervisor on the LHAT, as well as wearing proper attire when occupying a Laboratory/Technical Area.

Maintenance, Replacement and Disposal of PPE: Maintaining, replacing and disposing of PPE as trained. Informing their Supervisor when PPE is damaged or worn out. Avoid altering the PPE as this may compromise the effectiveness of the PPE.

Students: are responsible for obtaining course required PPE as noted in the course syllabus and wearing it as directed by the TA/instructor.

Training: Completing site-specific PPE training provided by the Supervisor or his/her designee (e.g. Teacher Assistant (TA)), which includes demonstrating the ability to use PPE properly.

Use: Using the correct and properly fitted PPE under the conditions identified by the Supervisor in the PPE Assessment Tool or as part of the course syllabus. All academic courses on campus which include laboratory, shop or field work are required to indicate PPE requirements including specifications of the type of PPE, as well as wearing proper attire when occupying a Laboratory/Technical Area.

A student not wearing PPE in a laboratory/technical area as required in their course syllabus may not participate in lab activities until such PPE is worn. Recommendations for laundering of lab coats belonging to students in teaching laboratories are dependent on the quantities and types of materials used. *Written instructions for laundering will be developed with guidance from EH&S and provided by course instructors.*

Maintenance, Replacement and Disposal of PPE: Maintaining, replacing and disposing of PPE as trained is the responsibility of each student. As informing his/her Supervisor (e.g. TA) when PPE is damaged, contaminated or worn out. In the event of an incident when PPE is damaged or contaminated during an academic course and a potential exposure occurs, this will need to be reported to EH&S to ensure the student receives proper medical treatment. Avoid altering the PPE as this may compromise the effectiveness of the PPE.

Environmental Health and Safety (EH&S): is responsible for the development and maintenance of the UC Irvine Research Laboratory PPE Program, including:

Implementation Tools: Developing and distributing PPE assessment and training tools (LHAT).

Technical Assistance: When requested, assist Supervisors, PI/Lab Supervisors or his/her designees with PPE assessments and training.

Quality Assurance Checks: Conducting periodic quality assurance checks of PPE compliance in work areas which includes: (a) review PPE assessment/training records for completion; (b) evaluate PPE use; and (c) communicate those findings, as appropriate, to Supervisor, PI/Lab Supervisor, Department Chair and/or School Dean.

In cases where work activities pose an immediate danger to life or health, designated EH&S staff have the responsibility and authority to order the temporary cessation of the activity until the hazardous condition is abated.

Academic Personnel or Staff Human Resources Offices: are responsible for all employee and labor relations issues, including interpretation and clarification of Personnel Policies and Collective Bargaining Agreements related to this Policy.

5. Program Components

The University of California 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 (CalOSHA) operates as the acting regulatory enforcement body under the direction of the OSHA act.

Title 8 California Code of Regulations, General Safety Orders and Title 29 of the Code of Federal Regulations, Part 1910, 132 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, UC Irvine has established this program regarding Personal Protective Equipment (PPE) requirements for all campus research laboratory faculty, staff and students.

The following requirements pertain to all research and teaching laboratory environments utilizing hazardous chemical, hazardous biological or unsealed radiological materials. Each supervisor must assess the laboratory space to determine if the hazards are present, or are likely to be present, which necessitates the use of personal protective equipment by completing hazard assessment via the campus Laboratory Hazard Assessment Tool. Laboratories that solely involve mechanical, computer, lasers or other non-ionizing radiation or electrical operations are also required to complete a hazard assessment through the campus Laboratory Hazard Assessment Tool. Due to the widely diverse, ever changing tasks and conditions that exist throughout the university laboratories/ technical areas everyone is required to re-certify the Laboratory Hazard Assessment Tool when new hazards are introduced or identified, work

processes have changed, new locations are added or at least every three years. If you strongly believe your laboratory areas you have large areas free of hazards including physical hazards that may not require PPE you must obtain an approval and/or exception, with appropriate labeling from EH&S.

EH&S, in cooperation with regulatory 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 EH&S. For more information, refer to Appendix A.

Minimum Requirements per UC policy:

- Full length pants, or the equivalent, and close-toed shoes must be worn at all times by all individuals that are occupying the laboratory area. The area of skin between the shoe and ankle should not be exposed.
- 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. There is not one type of glove that can protect against all hazards; choose the correct glove based on the hazard(s) present(s). Supervisors are responsible for choosing the appropriate PPE for the tasks and hazard. If assistance is needed for completing an assessment, contact EH&S.
- Laboratory coats, or the equivalent, are required to be worn while working on or adjacent to all bench top procedures utilizing hazardous chemical, biological or unsealed radiological materials. These 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 (FR) laboratory coats must be worn when working with any amount of pyrophoric materials or any amount of flammable liquids near ignition sources. FR laboratory coats must be worn when working with flammable liquids in amounts that pose a greater than de minimus risk as determined by a hazard assessment through the Laboratory Hazard Assessment Tool. 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.
- Laboratory coats may not be worn outside of a laboratory unless the individual is traveling directly to an adjacent laboratory work area. Protective gloves must not be worn in any public area outside of the laboratory (i.e., hallways, elevators, offices). Gloves should also be removed prior to handling any equipment that could likely result in cross-contamination (e.g., telephones, computer work stations, etc.).

- EH&S is currently responsible for providing professional laundry services as needed to maintain the hygiene of laboratory coats. They may not be cleaned by staff members or students at private residences or public laundry facilities. Any clothing that becomes contaminated with hazardous materials must be decontaminated before it leaves the laboratory.
- Eye protection or equivalent engineering controls must be used while handling any 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. Typical prescription spectacles are not suitable eye protection. Prescription safety glasses/goggles are available through individual campus procurement offices. Protective eyewear may be removed when using optical microscopes, or similar instruments, requiring close contact between the eyes and the eyepieces. Supervisors are required to assess the workplace to determine if hazards are present or likely to be present that necessitate the use of the PPE, provide employees with appropriate PPE and training and require the usage and maintenance of the PPE.
- Some operations and procedures may warrant further PPE as indicated by the SDS, the Standard Operating Procedures for the material being used, facility policies, regulatory requirements and the EH&S Laboratory Hazard Assessment Tool.
- Requirements for pyrophoric users: Hand protection requirements for the use of liquid pyrophoric chemicals (outside an inert glove box) include wearing/donning the appropriate chemical resistant outer gloves (Neoprene) and fire resistant (FR) inner gloves/liners. Handling includes opening shipping containers, moving agents from storage to use areas, and the transfer into and out of glove boxes or other protected manipulation equipment. This thermal hand protection neoprene and fire resistant inner gloves/liners also needed in the quenching or inerting of waste products and excess reagents when done or moved outside of a glove box. "Gloves or glove liners composed of the tight weave, inherently flame resistant materials Kevlar®, Nomex®, Kerinel®, or PBI®, or a blend of those materials, of sufficient thickness to prevent or minimize burn injuries to the extent feasible. Gloves or glove liners meeting MIL-DTL-81188C are also acceptable."

Acceptable glove liners include the following:

- Ansell Kevlar® Goldknit® Lightweight 70-200*
- Hanz Extremity Wear Nomex® Utility 2257C and 2259C.*
- Other Kevlar® gloves with the fabric basis weight of a minimum of 7.7 ounces per square yard and if one layer of the material has a minimum of 35 mils in thickness, and *
- Other Nomex® gloves meeting the specifications for Hanz Extremity Wear Nomex® Utility 2257G and 2259C.*

Laboratories must have these gloves available and use them for this specific research activity. This requirement may not be superseded by reference to a Safety Data Sheet (SDS).

****Cal/OSHA has identified FR gloves by material type and testing criteria that are acceptable. The purchase of any other type of material available needs to be submitted to***

Cal/OSHA. Specific testing protocols and test data must be approved by Cal/OSHA. Please contact EH&S to discuss any alternate FR gloves and the subsequent approval process.

Laboratory PPE Distribution Program:

UC Irvine has a centrally funded PPE Distribution Program to provide laboratories with the minimum personal protective equipment (PPE). Each eligible laboratory member will receive, at a minimum, two laboratory coats as recommended in the LHAT; one pair of safety glasses and one pair of splash goggles for the duration of their time at UC Irvine. Other types of PPE such as face shields, chemical splash goggles, fire resistant aprons and pyrophoric gloves etc. are available for laboratories by special request. In the event the safety eyewear does not fit properly, individuals will be given an additional face shield to wear and training will be provided.

PPE Fitting Room

Location: Environmental Health & Safety Room 109

Contact: ehs-ppe@uci.edu, (949) 824-6200

How to be fitted for PPE?

Instructions for Principal Investigators/Supervisors/ Laboratory Supervisors/TAs/Responsible Person:

All supervisors must access and authenticate the LHAT system in order to allow admittance for laboratory personnel. As a Principal Investigator/Supervisor/Laboratory Supervisor/TA/Responsible Person, you may choose to complete the hazard assessment or delegate the task to your Safety Representative. However the Principal Investigator/Supervisor/Laboratory Supervisor/TA/Responsible Person must certify the LHAT on behalf of the Regents of the University of California that reflect the activities in their laboratories.

Access the LHAT system (<https://ehs.ucop.edu/lhat>) securely through InCommon by selecting "University of California-Irvine". Log in using your UCI netID and Password.

- Log into LHAT (<https://ehs.ucop.edu/lhat>) and create a profile
- Add lab personnel to roster
- Denote Safety Representative or Laboratory Manager as "Delegate" (Optional)
- PI or Delegate completes hazard assessment (takes 15-30 min)
- Certify assessment (PI/Supervisors/ Laboratory Supervisor/TA only)
- Principal Investigator/Supervisors/Laboratory Supervisor/TA/Responsible Person or Delegate invites lab personnel to complete LHAT

For detailed instructions on the following topics please visit the links below :

How to Set Up a Lab Group in the LHAT & Complete a Hazard Assessment

https://www.ehs.uci.edu/programs/PPE/PITutorial-SettingUpLabGroupin_LHAT.pdf

- **Setting up a Lab Group to be completed by PI or Supervisor only**

- **Creating a hazard assessment to be completed by PI or Supervisor only**
- **Laboratory member instructions on how to certify the LHAT**
- **Obtaining Personal Protective Equipment**

- **Roster Upkeep: How to add/remove members from the “Lab Roster” for PIs/Supervisors and Delegates only**

Instructions for Students/Employees/Lab Members/Visitors

Access the LHAT system (<https://ehs.ucop.edu/lhat>) securely through InCommon by selecting “University of California-Irvine”. Log in using your UCInetID and Password.

- Ask your PI/Supervisor/Laboratory Supervisor/TA/Responsible Person or delegate to add you to the lab group (Supervisors must create Lab Group first)
- Once you are invited by the PI/Supervisor/Laboratory Supervisor/TA/Responsible Person or Delegate, log into LHAT at <https://ehs.ucop.edu/lhat>
- Review lab specific hazard assessment
- Complete training and quiz
- Print PPE voucher
- Please visit <https://ucippe.youcanbook.me/> to book an appointment.
- EH&S Address: 4600 Health Sciences Rd. Building 41 on the campus map

If you have any problems or questions, please contact EH&S PPE Laboratory Coordinator at ehs-ppe@uci.edu or 949-824-6200.

Complete the Laboratory Hazard Assessment Tool (LHAT) <https://ehs.ucop.edu/lhat/> to complete training and obtain a voucher

Fittings are by appointment only. Visit <https://ucippe.youcanbook.me/> to book an appointment. If nothing is listed, please email ehs-ppe@uci.edu to request an appointment.

Eligibility for the PPE Distribution Program

Any researcher at UC Irvine (i.e. paid or unpaid undergrads, grad students, post-docs, and staff) that will be working in the laboratory at any given time is eligible to be part of this program. The only requirement is to be added and certified on your PI /Supervisor/Laboratory Supervisor/TA/Responsible Person’s LHAT <https://ehs.ucop.edu/lhat/> and complete training requirements found in the system.

Volunteers who will be working in the laboratory for at least a quarter or longer are also eligible to obtain PPE through UC Irvine. As stated in the UCOP policy “PPE is required when working with, or adjacent to, hazardous material use areas within a laboratory/technical area”.

Important Information: If you are not a UC Irvine student or staff member (i.e., visiting scholars, volunteers, etc.), you must have an active UCInetID. This system is your electronic identification used for many online services at the University of California, Irvine. For more information please, visit this site:

For people **not eligible** for this program, PPE may be obtained through the **UC Irvine Coat Loaners Program** by contacting the EH&S PPE Laboratory Coordinator at ehs-ppe@uci.edu or 949-824-6200. Laboratory members should not use other laboratory members' lab coats, regulations require that individuals be properly fitted and adhere to the PPE standard and requirements identified in the LHAT. Cal/OSHA Title 8 regulations Section 3380, states that no coat should be used in the lab as a "general use" lab coat. Additionally, coat standards have become more rigorous. Please review the [Lab Coat Guide](#) to determine the coats you will need to use in your lab. The light blue coats issued from TANGO in 2011 should NOT be used as a Flame Resistant Coat as it no longer meets the new UC requirements. All lab coats have an expiration date of 3-5 years depending on their use and condition. If your lab coat has any holes, and/or is otherwise damaged beyond repair, contact the EH&S Laboratory PPE Coordinator ehs-ppe@uci.edu or 949-824-6200 for removal from the campus coat inventory and replacement.

If laboratories have additional coats provided by the PPE distribution program, be sure to return them to the EH&S PPE Coordinator. If the coats are in good condition, EH&S recycles them and makes them part of the UCI Loaner Program.

UC Irvine Coat Loaner Program:

The coat loaner program provides a laboratory coat to any individual who does not have a personally fitted coat. This program's users are predominantly in teaching laboratory courses or are visiting a laboratory on campus and will be working with or adjacent to hazardous materials use areas within a laboratory/technical area.

Loaner coats need to be returned to EH&S once the individuals are no longer working in the laboratory. The coats are part of the campus laundry program. It is important that coats are not laundered at home, as if they are not laundered properly, this may damage the fibers or safety properties. Flame Resistant (FR) apparel should be washed using soft water. Hard water adversely affects cleaning, resulting in increased detergent usage. Hard water contains mineral salts that can form insoluble deposits on the surface of fabrics. Sufficient buildup can negate the FR characteristics of the garment and may serve as fuel if garments are exposed to an ignition source. Using items like starch, fabric softener and other laundry additives can coat the fiber and mask the FR performance or serve as fuel in the case of combustion. Therefore, their use is not recommended and laboratory coats and other PPE should never be brought home to launder. Regulations dictate that the employer must provide a means for cleaning and decontaminating the PPE.

Types of PPE provided by this program:

➤ **Chemical Splash Goggles**

PPE	Image	Usage	Limitations
Chemical Splash Goggles		Are intended to protect the wearer's eyes if there is a risk of being splashed in the face with hazardous chemicals.	Goggles do not provide skin protection when working with corrosive chemicals; be sure to add a face shield to protect your face. PPE must meet the requirements specified in the American National Standards Institute Z87.1-1989 or later standard.

Goggles provide a tighter face seal than safety glasses and are not for general laboratory use. Wear them when there is a hazard from splashing chemicals or flying particles. For example, wear goggles when using glassware under reduced or elevated pressure or using glass apparatus in combustion or other high temperature operations. Impact-protection goggles have perforated sides to provide ventilation and reduce fogging of the lens but do not offer full protection against chemical splashes. Use chemical goggles with splash-proof sides for protection from harmful chemical splashes. There are also specific goggles and masks for glassblowing and intense light sources such as welding or lasers. For more information, please EH&S at 949-824-6200 or safety@uci.edu

➤ **Face Shield**

PPE	Image	Usage	Limitations
Face Shield		Is intended to protect the entire face or portions of it from impact hazards such as flying fragments, objects, large chips and particles. Use safety glasses for minor splash hazards, goggles for moderate hazards and goggles combined with a face shield for severe hazards.	Must meet the requirements specified in the American National Standards Institute Z87.1-1989 or later standards and be worn in combination with safety glasses or chemical splash goggles. <u>Not intended to be worn alone.</u> If you need skin protection from infrared (IR) or ultraviolet light (UV), use a face shield with appropriate filtration.

Goggles or safety glasses alone do not meet the ANSI standards for face and neck protection. For greater protection from flying particles and harmful liquids, wear a face shield to protect the face and throat—critical if your work puts you at risk of hazardous material splashes or flying debris from possible explosions. For full protection, wear a pair of safety glasses or goggles (depending on the hazard) in combination with a face shield. Consider using a face shield or mask when operating a vacuum system (which may implode) or conducting a reaction with explosive potential. Always use a UV-blocking face shield when working with transilluminators or other devices that produce unshielded ultraviolet radiation.

➤ **Laboratory Coats**

PPE	Image	Usage	Limitations
Traditional Lab Coat <i>(Cotton or cotton/ polyester blend)</i>		Is intended to protect the wearer and the wearer's clothes from incidental splashes of hazardous materials found in research labs.	This coat should not be used when working with: greater than > 25 ml per container of human or non-human primate blood, body fluids, tissues, cells or other potentially infectious material (OPIM) which may contain human bloodborne pathogens (BBP); HIV/HBV/HCV; unfixed cadavers or tissue of human or non-human primates where a splash hazard exists or a large amount of unfixed human or non-human tissue. Quantities large enough to soak through to the skin, flammable materials greater than 1 L or smaller quantities of flammable materials when there is a risk of ignition.

PPE	Image	Usage	Limitations
<p>Barrier Lab Coat (Made mostly of polyester)</p>		<p>Is intended to protect the wearer when working with greater than > 25 ml per container of human or non-human primate blood, body fluids, tissues, cells or other potentially infectious material (OPIM) which may contain human bloodborne pathogens (BBP). When working with HIV / HBV / HCV. Working with unfixed cadavers or tissue of human or non-human primates where a splash hazard exists or a large amount of unfixed human or non-human tissue.</p>	<p>This coat should not be used when there is a risk of fire.</p>

PPE	Image	Usage	Limitations
<p>Flame Resistant Lab Coat (6 Oz/yd Nomex is best)</p>		<p>Is intended to protect the wearer when there is a risk of personal garments or skin catching on fire. FR clothing will resist ignition, prevent the spread of fire over the garment and quickly self-extinguish following removal of the ignition source, such as a Bunsen burner.</p>	<p>FR garments are not designed to be “fire-proof,” nor are they designed to eliminate the risk of burns. If FR clothing is splashed or contaminated with a flammable substance and ignited, the substance will continue to burn on the surface of the garment until the fuel is exhausted. This garment is not fluid resistant and should be immediately removed and replaced (or laundered) if it comes in contact with spilled substances.</p>

➤ **Pyrophoric Gloves:**

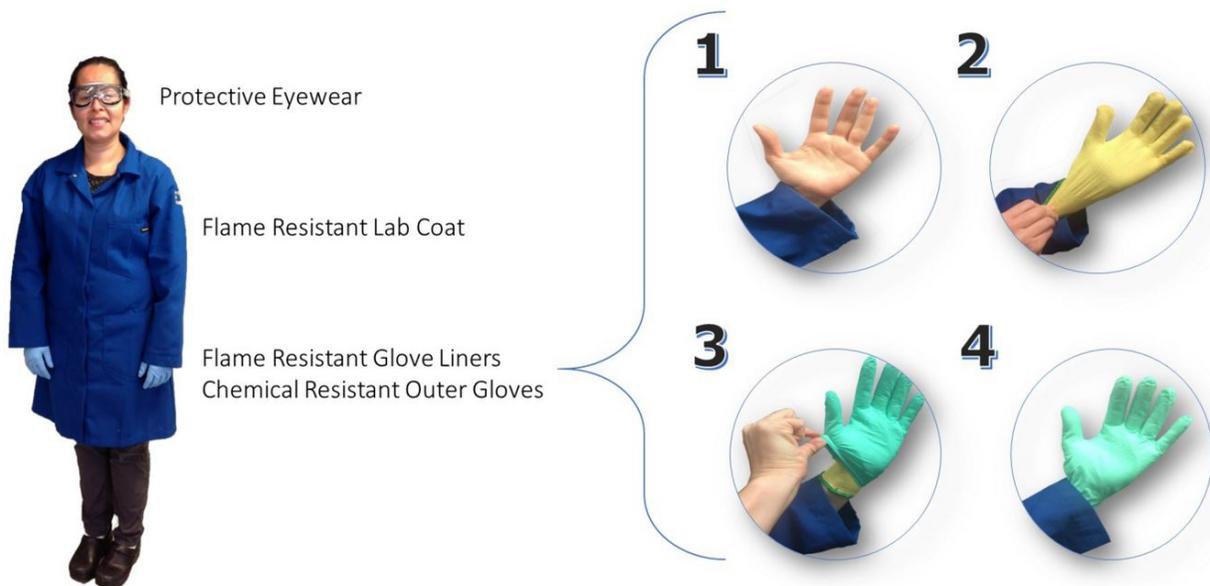
PPE	Image	Usage	Limitations
<p>Pyrophoric Gloves/ Flame Resistant Glove (Cut Resistant Gloves, ANSI/ISEA Cut Level 2, Kevlar)</p>		<p>Lightweight cut protection for light-duty applications. Style: 70-200 Construction: Knitted – Uncoated. Linear Material: DuPont™ Kevlar. Style: Knitwrist Sizes: 7 - 9 Description: 100% DuPont™ Kevlar® glove provides light-duty cut protection. Protection from sharp edges of metals, ceramics, glass and other materials. The gloves has a reversible design allows glove to be worn on either hand, reducing replacement costs.</p>	<p>If there is a potential for biological or chemical contamination: wear appropriate disposable gloves on top of your cut-resistant gloves and discard after use via the appropriate waste stream.</p> <p>For more information please visit http://www.ansellpro.com/ Featured Technology DuPont™ Kevlar</p> <p>Caution: The elastic band on this product may contain natural rubber latex which may cause allergic reactions in some individuals.</p>

PPE	Image	Usage	Limitations
<p>Chemical Resistant outer gloves (Neoprene) Sold As Box of 100</p> <p>Standards Category III: AQL EN374 1.5; 21 CFR 177.2600, ASTM D3578 Type II, Class I</p>	<p>Error! Objects cannot be created from editing field codes.</p> 	<p>NeoTouch® gloves are chemical and puncture resistant with high-tensile strength. Textured fingertips improve grip. Polymer inner coating for easy donning.</p> <p>Technical Specs Item: Disposable Gloves Style: 25-101, 25-201 Material: Neoprene Powder Free Thickness: 5.00 mil Color: Bright Green Cuff: Rolled/Beaded Grade: Exam/Medical Ambidextrous/Hand-Specific: Ambidextrous Latex Content: Latex Free</p> <p>Application: Pharmaceutical, Medical Device Manufacturing, Biotech, Laboratories Resists: Punctures, Splash Chemical Protection, Acids, Bases and Alcohols</p>	<p>Neoprene has poor resistance to chlorinated aromatic solvents, phenols, and ketones.</p> <p>For more information please visit http://www.ansellpro.com/</p>

Personal Protective Equipment, including Flame Resistant (FR) Lab-coat and Gloves:

- Be sure all personal protective equipment is clean, in good working-order and properly sized (fitted).
- Gloves should fit closely enough to allow dexterity in manipulations but not tight enough as to restrict circulation or to prevent convenient and safe removal in case of contamination.
- Install FR inner gloves first.
 - Snug gloves to fingertips by pulling down in web-area between each finger.
- Pull on Chemically Resistant outer gloves (neoprene) carefully to prevent damage/tearing.
 - Again, snug gloves to inner-gloves by pulling down in web-area between each finger.
- Examine gloves for integrity before active use and frequently during extended periods of use.

Donning Inner FR & Outer Chemically Resistant Gloves



(above picture courtesy of UC Riverside EHS)

Removing (Doffing) gloves:

- Leave eye-protection and (uncontaminated) lab-coat in place while removing gloves.
- If a glove is contaminated or involved in a fire/accident situation, remove it quickly by pinching the area at the palm-wrist interface (not the cuff-edge) with the “other” gloved hand. You may remove both inner and outer gloves at once if necessary or just the outer contaminated glove. Do not allow the glove to snap and splatter contamination.
- Now carefully insert a finger from an ungloved hand under the wrist cuff-edge of the remaining glove(s) and methodically slide the glove(s) from your hand. Do not allow the glove(s) to snap. *Dispose of contaminated glove(s) into a safe container via a protected hand or using tongs or a tool.*

Practice glove donning/doffing to gain confidence and fluency before using active reagents.

If flame-resistant gloves compromise dexterity due to the nature of the work, contact the Chemical Safety Officer (949-824-6200) for guidance. Never reuse disposable gloves.

➤ **Safety Glasses:**

PPE	Image	Usage	Limitations
<p>Safety Glasses</p>		<p>Are intended to protect the wearer's eyes when working with materials that may fly towards the researcher's face, impacting the eyes with solid materials that may damage the eyeball. We have different styles including some that go over the glasses and bifocals.</p>	<p>Safety glasses are not appropriate against splashes of caustic chemicals or fumes. Must meet the requirements specified in the American National Standards Institute Z87.1-1989 or later standard.</p>

Eye protection is indicated for flying particles, acids or caustic liquids, welding, light that could injure eyes (lasers, ultraviolet, infrared, radiation) and infectious body fluids. Adequate eye protection requires the use of hardened glass or plastic safety spectacles with side shields. Safety glasses used in the laboratory must comply with the Standard for Occupational and Educational Eye and Face Protection (Z87.1) established by the American National Standards Institute (ANSI).

Side shields on safety glasses offer some protection from objects approaching from the side- but do not provide adequate splash protection. Wear chemical splash goggles or full-face shields when significant liquid splash hazards exist.

How To Request Additional PPE:

For any additional PPE that is available, please contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu or 949-824-6200. Reasons to request additional PPE.

- Torn or damaged coats
- Contaminated coats
- Contaminated eyewear
- Different coat sizes needed due to pregnancy or medical conditions
- Broken or damaged eyewear
- Additional face shields
- New projects with new hazards
- Additional rooms or new locations not previously listed
- Dedicated coats to a particular project and/or prevention of cross contamination
- Sizing of the coats based on comfort issues
- Old light blue coats exchanged for FR dark blue coats with snaps

- Old FR coats with buttons for FR dark blue coats with snaps

Prescription Safety Eyewear:

At this, time the PPE distribution program only offers safety glasses that can be placed over the researcher's personal prescription glasses. Be sure to bring your glasses for fitting. For researchers who wear prescription glasses, side shields must be permanently affixed to the frames to protect eyes from flying particles. Ask your local eye care professional to show you the latest prescription safety glasses that best suit your needs. All prescription safety glasses must have markings specified by the ANSI Z87.1-2010 standard on both the lenses and the frame of the eyewear. The employee's home department is responsible for paying and covering the cost of prescription eyewear materials (frames and impact resistant lenses), up to a maximum of \$150 per year*. Researchers are responsible for any additional professional fees associated with the eye examination, fitting and dispensing. You must have a copy of your current eye prescription from an ophthalmologist or optometrist.

Prescription safety eyewear should be fitted only by qualified optical personnel. Currently, retail Lenscrafters stores carry up to 20 styles of eyeglass frames with permanently affixed side shields that meet Z87.1. Departments may use PalCard or the employee may be reimbursed for the cost of the frames and lenses.

** This may be subject to change based on union contract agreements. Check with the campus Human Resources Officer for details.*

Lab Coat Laundry Procedures:

Any member of a UC Irvine research laboratory who has received coats through the campus distribution event, or EH&S directly qualifies for the free laundry program. Unfortunately, the campus cannot launder purchased coats that are not part of this program as every single coat provided in the program must have a barcode with a specific campus location. Without this barcode, the laundry company does not have a way to track the coats back to a campus location or the institution that it comes from. Remember, the laundry company provides services for all the UC campuses in Southern California; thus, each coat is tracked by the barcode.

How to get your coat cleaned

Important: If a coat is potentially contaminated with hazardous material, DO NOT send it in for laundering. Contact the EH&S PPE Laboratory Coordinator at ehs-ppe@uci.edu for instructions.

Contaminated coat procedures: All laboratory coats must be decontaminated prior to laundry. Do not place soiled coats in red biohazardous bags inside the laundry bin; placing coats in biohazardous red bags means that your coats are contaminated and should be incinerated through our biomedical waste program.

Small splashes of contamination should first be blotted before placing the coat into the laundry bin. Grossly contaminated laboratory coats should be treated as hazardous waste. Carefully insert your contaminated coat into a leak-proof bag while wearing gloves to protect yourself from the contamination. Properly doff your gloves and dispose of them. Next, securely close the bag and immediately affix a completed hazardous waste label onto the bag. Contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu or 949-824-6200 to arrange for the item to be picked up during the next hazardous waste pick-up.

For chemical waste: <https://www.ehs.uci.edu/apps/waste/cwcollect.jsp>

For biomedical waste: <https://www.ehs.uci.edu/apps/waste/biocollect.jsp>

For radioactive waste: <https://www.ehs.uci.edu/apps/waste/radcollect.jsp>

Laboratory Coat Laundering Process:

- There are six laundry drop-off/pick up sites on campus.
- Medical Sciences C Loading Dock (Med Sci C-142)
- Engineering Tower Loading Dock (ET 105)
- Frederick Reines Hall (B003D)
- McGaugh Hall Loading Dock (MH 1439D)
- EH&S (Room 131)
- Building 55 (UC Irvine Medical Center, Orange)

- Empty pockets and place dry coat in the laundry bin selected when you were fitted. Remove all personal belongings from your lab coat pockets especially pens and sharpies. If these materials are left in your pockets, they will damage your coats and the rest of the coats from UC Irvine. Ideally, you want to launder one coat at a time so you don't find yourself without a coat.
- Laundry is picked up on Wednesday. During major holidays, the pick-up/drop off day will change to Tuesday.
- All clean lab coats are returned on hangers at your lab's LHAT designated laundry location or the location you selected during your fitting. Check laundry locations weekly for your laundered coats.
- If you submitted your coat through our campus laundry bin and it has been over 3 weeks since your drop off, please contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu or 949-824-6200 for more information.

Care and Disposal of your Laboratory Coat

Your laboratory coat should be retired when it is permanently soiled, notably stained, perforated with holes, and/or otherwise damaged beyond repair. The laboratory coat should be removed from the laundry inventory and destroyed. For more information, contact the EH&S Laboratory PPE Coordinator ehs-ppe@uci.edu or 949-824-6200 for disposal and replacement.

Laboratory Coat Alterations

Information for FR Lab Coats:

Do not apply your own embroidery, emblems or patches to a FR laboratory coat without first considering the placement and the materials you will be using. If you do not follow

specific procedures, you will compromise the integrity of the FR lab coats making them useless. For more information, contact the EH&S Laboratory PPE Coordinator EH&S at ehs-ppe@uci.edu or 949-824-6200 who can provide you with the only professional services used by the company that makes the current UC FR coats.

If your coat needs to be altered, contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu or 949-824-6200 and bring your coats to your appointment.

Information for traditional and/or barrier Coats:

All embroidery, emblems or patches to the traditional and barrier coats provided by this program needs to be performed by the campus approved laundry vendor and paid by the department or laboratory groups. For more information, contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu or 949-824-6200. If you want to use the UCI seal, you will need to obtain permission from Strategic Communications at 949-824-5028. For more information https://communications.uci.edu/campus-resources/graphic-standards/downloads/UCI-035_BrandGuide_4.0_R3-LoRes.pdf

Care and Disposal of your Protective Eyewear

Clean your safety glasses or goggles daily with a soft cloth and store them in a clean dry place where they will not be damaged. Inspect your glasses or goggles to make sure the lenses are firmly attached and undamaged. Make sure the face seal around goggles remains flexible and provides a good seal to your face and that the elastic band is not damaged. Do not hang goggles by their straps over time as they will lose their elasticity and compromise their effectiveness. Replace scratched, pitted, broken, bent or ill-fitting safety eyewear.

Inspect your face shield for proper attachment of the lens to the headgear. Replace the face shield lens when it becomes scratched, or damaged. Replace the entire face shield when the headgear is no longer functional. For more information, contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu or 949-824-6200.

If your eyewear should become damaged or is no longer functional, discard it in the regular trash. If the eyewear is contaminated with a hazardous material, try to decontaminate them before placing them into the trash or consider sending them through our campus hazardous waste program.

For chemical waste: <https://www.ehs.uci.edu/apps/waste/cwcollect.jsp>

For biomedical waste: <https://www.ehs.uci.edu/apps/waste/biocollect.jsp>

For radioactive waste: <https://www.ehs.uci.edu/apps/waste/radcollect.jsp>

Please contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu to discuss your options.

If you break/ scratch/lose your safety glasses, contact the EH&S Laboratory PPE Coordinator at ehs-ppe@uci.edu. Our department will gladly provide a replacement pair as long as we have them available. Certain eyewear may change or may not be available to purchase and in those cases, you will need to be fitted again with the new items we have in stock.

Hand Protection:

Gloves are not provided as part of the UC Irvine PPE distribution program but you should be familiar on how to perform a risk assessment before making your selection.

Supervisors are required to assess the workplace using the LHAT to determine if protective gloves are necessary and provide the employee with the appropriate gloves and training. Not every glove is good for every application. Common glove materials include neoprene, polyvinyl chloride, nitrile, butyl and natural rubbers (latex). These materials differ in their resistance to various substances. Chemicals eventually permeate all glove materials. However, gloves are safe for limited periods if one knows the specific use and glove characteristics (such as thickness and permeation rate and time).

Wear proper protective gloves for potential contact with corrosive or toxic materials, materials of unknown toxicity, sharp edged objects and very hot or cold materials. Select gloves based on the material handled, the particular hazard involved and their suitability for the operation conducted. Consider these factors when choosing the right glove for the task.

- Chemical type and Concentration
- Temperature extreme
- Equipment used (sharps, piercing object)
- pH
- Toxicity
- Duration of contact

Use disposable gloves for incidental contact. Consider double gloving (the wearing of 2 gloves on each hand) when handling highly toxic or carcinogenic materials. Use heavy-duty gloves for non-incidental contact and gross contamination.

Wear sturdier gloves such as leather for handling broken glassware, inserting glass tubes into rubber stoppers and similar operations where you do not need protection from chemicals.

Use insulated gloves when working at temperature extremes. Do not wear woven gloves while working with cryogenics as the liquid may work its way through the glove to your hand. Use gloves specifically designed for work with cryogenics. Gloves worn for working with elevated temperatures may not be appropriate for working with extremely low temperature liquids.

6. Reporting Requirements

None

7. Competency Assessment and Training Requirements

Anyone working in a location that has been assigned as a laboratory space or technical space where the use or storage of hazardous materials occurs or where equipment may present a physical or chemical hazard shall be invited by their supervisor to join the lab's LHAT.

Once you are invited by the supervisor, log into LHAT at <https://ehs.ucop.edu/lhat>

You must:

- Review lab specific hazard assessment
- Complete training and quiz
- Print PPE voucher
- Please visit <https://ucippe.youcanbook.me/> to book an appointment.
- Be fitted at or by EH&S Personnel. For more information <https://www.ehs.uci.edu/programs/PPE/LabPPE.html>

8. Information and External References

State and Federal Regulation:

8 CCR 3203 Injury Illness Prevention Program: <http://www.dir.ca.gov/title8/3203.html>

8 CCR 3380 Personal Protective Devices: <http://www.dir.ca.gov/title8/3380.html>

8 CCR 3381 Head Protection: <http://www.dir.ca.gov/title8/3381.html>

8 CCR 3382 Eye and Face Protection: <http://www.dir.ca.gov/title8/3382.html>

8 CCR 3383 Body Protection: <http://www.dir.ca.gov/title8/3383.html>

8 CCR 3384 Hand Protection: <http://www.dir.ca.gov/title8/3384.html>

8 CCR 3385 Foot Protection: <http://www.dir.ca.gov/title8/3385.html>

8 CCR 5098 Hearing Protection <http://www.dir.ca.gov/title8/5098.html>

8 CCR 5144 Respiratory Protective Equipment: <http://www.dir.ca.gov/title8/5144.html>

8 CCR 5191 Occupational Exposure to Hazardous Chemicals in Laboratories:
<http://www.dir.ca.gov/title8/5191.html>

8 CCR 5193 Bloodborne Pathogens: <https://www.dir.ca.gov/title8/5193.html>

8 CCR 5194 Hazard Communication: <https://www.dir.ca.gov/title8/5194.html>

8 CCR 5200 –5220 Regulated Carcinogens:
<http://www.dir.ca.gov/title8/sb7g16a110.html>

10 CFR 19 Notices, Instructions, and Reports to Workers: Inspections and Investigations: <http://www.nrc.gov/reading-rm/doc-collections/cfr/part019/>

10 CFR 20 Standards for Protection against Radiation:
<http://www.nrc.gov/reading-rm/doc-collections/cfr/part020/>

California Labor Code Section 6400-6413.5:

<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=lab&group=06001-07000&file=6400-6413.5>

Prudent Practices in the Laboratory, National Research Council, 2011

http://www.nap.edu/openbook.php?record_id=12654&page=1

Biosafety in Microbiological and Biomedical Laboratories (BMBL)

5th Edition (December 2009): <http://www.cdc.gov/biosafety/publications/bmb15/>

UCOP:

PPE policy: <http://policy.ucop.edu/doc/3500597/PersonalProtectiveEquip>

UC Irvine:

Biosafety Manual – <https://www.ehs.uci.edu/programs/biosafety/BiosafetyManual.pdf>

Chemical Hygiene Plan- https://www.ehs.uci.edu/programs/lsg/UCI_CHP.pdf

Radiation Safety Manual –

<https://www.ehs.uci.edu/programs/radiation/RadiationSafetyManual.pdf>

Respiratory Protection Program – <https://www.ehs.uci.edu/programs/ih/respiratory.html>

Visitors & Minors in Labs and Shops-

<https://www.ehs.uci.edu/programs/visitorprogram.pdf>

APPENDIX A

Requests for PPE Exception Areas within Laboratory and Technical Areas

Introduction

This document describes the process for requesting, approving, and maintaining a PPE Exception Area. Principal Investigators (PI) may request exceptions to the [UCOP Personal Protective Equipment Policy](#) (Section III.3.b.III) for non-hazardous work areas within laboratories and technical areas¹.

The following are examples where a PPE Exception may be granted. Note that these descriptions are illustrative only and are not binding determinations — all PPE Exception Areas must be ultimately approved by the EH&S Deputy Director:

Criteria/Examples

1. Non-hazardous work areas that are within a laboratory or shop but are clearly delineated by adequate separation² or physical barrier (e.g., walls, doors, or cubicle dividers). It must be clear that the area is intended to be dedicated non-hazardous area.
2. “No PPE required” corridors that are within a laboratory or shop but are clearly delineated by adequate separation² or physical barrier (e.g., walls, doors, or cubicle dividers).
3. Hazardous materials stored and used in the area is limited to de minimus amounts of Class 1B Flammables without a nearby ignition source, used to wipe microscope slides and oculars. De minimus in this example is up to 4 containers per area, individually each container having maximum capacity of up to 100 mL (3 oz).
4. Areas used for fly counting, involving compressed CO₂ at very low flow rates to anesthetize flies for counting and observation.

See examples of demarcation below:

¹ To request a Clean Area within Laboratory/Technical Areas, please follow UCI's [Clean Area Procedure](#).

² Adequate separation varies, but is a minimum of 1 meter separation. EH&S may require additional separation.



Procedure

1. The Principal Investigator (PI) completes the **PPE Exception Area Request Form** and submits it to the EH&S School Coordinator.
2. If the proposed area is free of storage and use of hazardous materials and physical hazards (except for storage of capped compressed gas cylinders) the EH&S School Coordinator will convene an expedited meeting with the EH&S Deputy Director and EH&S Laboratory PPE Coordinator for review and make a decision. Skip to Step 4.
3. If the proposed area is not free of storage and use of hazardous materials and physical hazards (other than storage of capped compressed gas cylinders), the EH&S Laboratory PPE Coordinator will schedule a site visit with the PI to evaluate laboratory operations and interview laboratory members along with any EH&S Subject Matter Expert (SME) and/or EH&S School Coordinator. After the site visit, the EH&S School Coordinator will convene a meeting with the EH&S Laboratory PPE Coordinator, Chemical Hygiene Officer (CHO), Biosafety Officer (BSO), Radiation Safety Officer (RSO) and any EH&S Subject Matter Expert (SME) to review the submitted PPE Exception Area Request Form for conformance with existing policy and the guidelines mentioned above.
 - a. If the CHO, BSO, RSO and all involved SMEs determine that they support the PPE Exception Area request, the EH&S School Coordinator will forward it to the EH&S Deputy Director with an “Approve” recommendation and the reasoning associated with the decision.

- b. If the CHO, BSO, RSO and all involved SMEs determine that they do not support the PPE Exception request, the group will forward it to the EH&S Deputy Director with a “Deny” recommendation and the reasoning associated with the decision.
4. The EH&S Deputy Director will either approve or deny the PPE Exception request and return the PPE Exception Request Form to the EH&S School Coordinator who will place the documentation in the Laboratory Safety Binder on Tab #5. He or she will also provide a copy of the Request Form to the EH&S Laboratory PPE Coordinator so it can be uploaded to the PI’s LHAT when that feature becomes available or placed in the current Laboratory and Building Survey electronic folder file by PI.
5. The EH&S School Coordinator will then inform the PI/Laboratory Supervisor of the decision. There may be additional terms and conditions on a case by case basis.
 - a. If approved, a signed and dated copy of the PPE Exception Area Request Form will be posted in each PPE Exception area by the PI.
 - b. Prior to implementing the approved PPE Exception Area, the PI and EH&S School Coordinator shall clearly delineate the approved PPE Exception area with signage, tape, or physical barriers.
 - c. Lab workers review and initial the approved PPE Exception Area Form.

Maintenance Criteria

The following elements are required to maintain an approved PPE Exception:

1. The PPE Exception Area must always be prominently signed and delineated by physical barrier or tape on the floor.
2. When researchers are in the determined hazardous area, individuals must wear full length pants (or equivalent) and closed toe/heel shoe attire.
3. PI’s with laboratories or technical areas with a PPE Exception must demonstrate a strong safety culture and high level of compliance by correcting Laboratory Safety Survey (LBSS) findings for which the PI is responsible within 45 days.
4. Any report of observed violation requires a review by the EH&S Laboratory PPE Coordinator and/or CHO, BSO, RSO or any SME of the PPE Exception and may

result in revocation of the PPE Exception Area approval by the EH&S Deputy Director; and

5. Any incident or injury that occurs in the PPE Exception Area will result in revocation of the PPE Exception Area approval by the EH&S Deputy Director.
6. Upon PPE Exception Area approval, all laboratory workers must acknowledge in writing the approval, terms & conditions, and location of the PPE Exception Area.
7. If new equipment or new hazards are introduced into the PPE Exception Area, a notification to the appropriate EH&S School Coordinator is required. New hazards or new equipment in the PPE Exception Area may result in modifications to the approved PPE Exception Area Form, sketches, signage and markings, or perhaps even revocation of approval for the PPE Exception Area.
8. During periodic lab inspections and mid-cycle reviews, EH&S reviews the PPE Exception Area Form, area layout, signage and markings, and area activities for compliance with the approved terms and conditions. PI must address non-compliance promptly by improving performance or making adjustments to the approved PPE Exception Area. EH&S may revoke the approved PPE Exception Area for non-compliance with the approval's terms and conditions.

UCI PPE Exception Request Form

This worksheet template is used for requesting, approving and posting exceptions to the existing UC PPE policy. Each laboratory or technical area requires a separate PPE Exception Worksheet.

	Name	Daytime Phone	UCI e-mail
Principal Investigator		949. .	
Lab Contact <small>if different than PI</small>		949. .	
Department	Building	Room (s) #	
<input type="checkbox"/> Yes <input type="checkbox"/> No	Do you receive or anticipate funding from any Federal or State agency that requires EH&S review? If yes, provide deadline:		
<input type="checkbox"/> Yes <input type="checkbox"/> No	Do you have or need special permits from Federal or State agency (e.g. USDA- APHIS, CDC, DEA)? If yes, specify:		
<input type="checkbox"/> Yes <input type="checkbox"/> No	Do you have a current chemical inventory completed (within the last 12 months)? An outdated inventory will affect the Banded SOPs and requirements.		

For the area you are requesting EH&S to approve as a PPE Exception Area, please respond to the following:

1. Is the proposed area currently free of use or storage of hazardous materials or physical hazards (except for capped compressed gas cylinder storage)? Yes No

2. How do you intend to make the area free of use or storage of hazardous materials or physical hazards prior to final EH&S approval

3. Is your request for a PPE Exception Area to use only de minimus amounts of hazardous materials? If yes, please describe the material and application. Yes No

4. In the proposed area, what are the current or planned activities performed that are capable of causing injury or impairment to any part of the body as a result of absorption, inhalation, or physical contact?

5. Provide a description of an enforcement plan for internal observation of violations of the PPE Exception Area. Corrective actions for violations of the PPE Exception Area must be defined and documented.

6. Provide an 8.5" x 11" sketch or photo of the entire laboratory/technical area with the proposed PPE Exception Area clearly outlined for easy interpretation.

EH&S School Coordinator will perform and documents periodic spot-checks of the PPE Exception Area for adherence to the approval's terms and conditions.

To the best of my knowledge, the information reported on this form is correct and accurately reflects my proposed research.

Principal Investigator Signature/Electronic Signature Date

Submit your completed application and supplemental documents to the appropriate School Coordinator for your area.

Academic Coordinator Assignments /School	Coordinator	Contact Information
Beckman Laser	David Melitz	dmelitz@uci.edu , 949-824-4660
Biological Sciences	Chris Haug	chrisyh@uci.edu , 949-824-2221
CallT2	Christian Ritter	cr Ritter@uci.edu , 949-824-6085
Engineering	Christian Ritter	cr Ritter@uci.edu , 949-824-6085
Medicine	David Melitz	dmelitz@uci.edu , 949-824-4660
Nursing	David Melitz	dmelitz@uci.edu , 949-824-4660
Pharmaceutical Sciences	Angela Geissbuhler	ageiss@uci.edu , 949-824-2518
Physical Sciences	Angela Geissbuhler	ageiss@uci.edu , 949-824-2518
Public Health	Chris Haug	chrisyh@uci.edu , 949-824-2221
Social Ecology	Chris Haug	chrisyh@uci.edu , 949-824-2221
Stem Cell	Christian Ritter	cr Ritter@uci.edu , 949-824-6085

EH&S ZOT 2725

Attention: School Coordinator

For more information or if you are not sure where to submit this request, please send it to ehs-ppe@uci.edu

Electronic submissions are preferred.

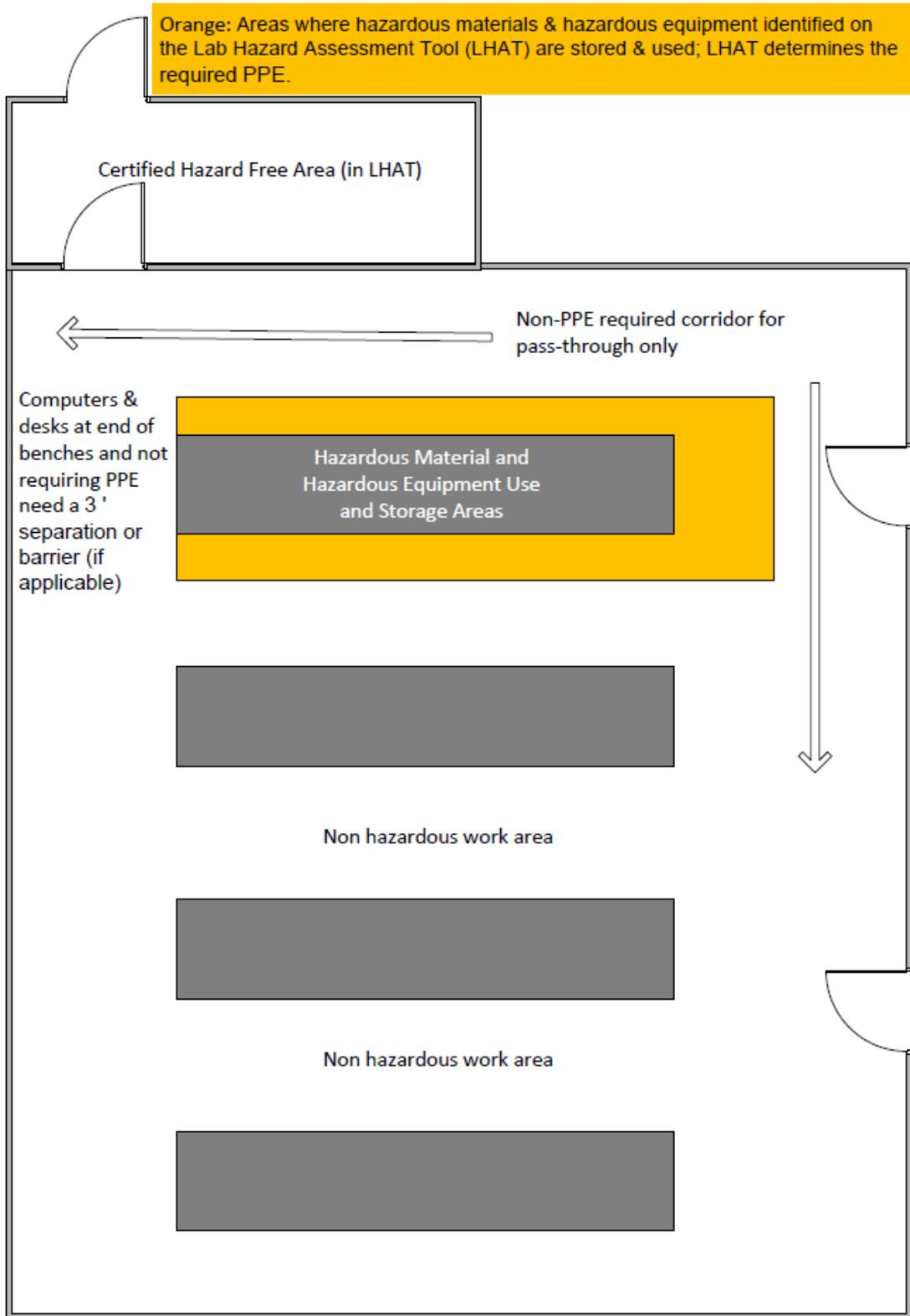
Once approval is granted, the EH&S School Coordinator will place the approval form in the Lab Safety Binder Tab #5, and mark the approved PPE Exception Area with signage, floor tape, or physical barrier.

For EH&S use only

	Yes	No	Mark Yes for approval or No for disapproval
1.	<input type="checkbox"/>	<input type="checkbox"/>	Expedited? Yes, skip to #6
2.	<input type="checkbox"/>	<input type="checkbox"/>	BSO comments: <input type="text"/> IBC # <input type="text"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	CHO comments: <input type="text"/> Copy of current certified LHAT found at https://ehs.ucop.edu/lhat
4.	<input type="checkbox"/>	<input type="checkbox"/>	RUA# <input type="text"/> RSO comments: <input type="text"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Safety comments: <input type="text"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	PPE Lab Coordinator comments: <input type="text"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	EH&S Deputy Director: If no exception is granted, please provide a reason: <input type="text"/>

EXAMPLE OF AREA DIAGRAMS

Lab Hazard Consolidation with Hazard Free Work Area in Lab



PPE REQUIRED

MINIMUM FOR WORKERS WHEN OCCUPYING LABORATORY AREA



FULL LENGTH PANTS



CLOSED TOE/HEEL SHOE

MINIMUM WHEN WORKING WITH OR ADJACENT TO HAZARDOUS MATERIALS



APPROPRIATE
LAB COAT



APPROPRIATE
SAFETY
EYEWEAR



APPROPRIATE
GLOVES

Refer to the specific Laboratory Hazard Assessment (LHAT) for a complete description of PPE use. Refer to University of California Personal Protective Equipment Policy.

Environmental Health & Safety 949.824.6200

THIS AREA HAS BEEN DESIGNATED

“HAZARD FREE”

**and posted as free of chemical, physical, biological,
radiological, laser, and non-ionizing hazards.**

PLEASE REFER TO THIS LABORATORY'S HAZARD ASSESSMENT FOR DETAILS

Environmental Health & Safety 949.824.6200

PPE REQUIRED

MINIMUM FOR WORKERS WHEN OCCUPYING LABORATORY AREA



FULL LENGTH PANTS



CLOSED TOE/HEEL SHOE

MINIMUM WHEN WORKING WITH OR ADJACENT TO HAZARDOUS MATERIALS



**APPROPRIATE
LAB COAT**



**APPROPRIATE
SAFETY
EYEWEAR**



**APPROPRIATE
GLOVES**

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Environmental Health & Safety 949.824.6200

HAZARD FREE DOOR SIGN AFTER CERTIFICATION OF LHAT

**THIS LABORATORY
HAS BEEN
DESIGNATED**

“HAZARD FREE”

**and posted as free of chemical, physical, biological,
radiological, laser, and non-ionizing hazards.**

**If any hazards are introduced to this area, the laboratory hazard
assessment must be revised**

Environmental Health & Safety 949.824.6200

SCHOOL OF ENGINEERING AREAS WITH MACHINES ONLY

PPE REQUIRED

MINIMUM FOR WORKERS WHEN OCCUPYING LABORATORY AREA



FULL LENGTH PANTS



CLOSED TOE/HEEL SHOE

MINIMUM WHEN WORKING WITH OR ADJACENT TO HAZARDOUS MATERIALS



**APPROPRIATE
SAFETY
EYEWEAR**

Refer to the specific Laboratory Hazard Assessment (LHAT) for a complete description of PPE use. Refer to University of California Personal Protective Equipment Policy.
Environmental Health & Safety 949.824.6200