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EH&S Fact Sheet

Environment, Health and Safety Information for the Berkeley Campus

Personal Protective Equipment for Lab and Shops

Hazards exist in University laboratories and shops, and can take many different forms: chemicals, open flames, sharp edges, flying sparks, noise, and a myriad of other potentially dangerous situations. This fact sheet is a summary of the University's Personal Protective Equipment policy, requiring laboratory and shop personnel to be protected from workplace hazards.

Controlling a hazard at its source is the best way to protect employees. Engineering or administrative controls to manage or eliminate hazards to workers is the preferred option. When engineering or administrative controls are not feasible or do not provide sufficient protection, supervisors must provide personal protective equipment (PPE) to their workers and ensure its use. Attire when occupying a laboratory or shop containing hazardous materials or equipment.

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Full length pants or equivalent (e.g. ankle length dress) and closed toe/heel shoes must be worn at all times by all workers who are entering or occupying a laboratory or shop; the skin between the pants and shoes must not be exposed. In all instances, cotton clothing is preferred over synthetic material, because synthetic materials are generally less chemical and flame resistant. Avoid tight fitting clothing, which could hold chemicals against the skin or porous tennis shoes which can allow chemicals to pass through more quickly.

PPE when working with, or adjacent to, hazardous material use areas within a laboratory or shop

A. Laboratory coats or equivalent protective garments and protective eyewear are required to be worn by all persons working with hazardous materials. Additionally, laboratory personnel occupying the adjacent area, who have the potential to be exposed to chemical splashes or other hazards, are required to wear the equivalent protective equipment. One tool that can help determine the appropriate PPE in an area is the Laboratory Hazard Assessment Tool (LHAT), launched in fall 2013.

   1. Laboratory coats must be the appropriate size for the worker, buttoned/snapped to their full length. There should be no exposed skin between the gloves and the sleeves of the lab coat.

   2. Flame Resistant (FR-rated) laboratory coats must be worn when working with any amount of pyrophoric materials. FR-rated lab coats are also required

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when working with flammable liquids in laboratories using open flames or other potential ignition sources, but also when working with 1 L or more of flammable liquids even if no ignition source is present; or as determined by the hazard assessment or Standard Operating Procedure (SOP).

3. Laboratory coats must not be laundered at private residences or public laundry facilities. Any protective clothing that becomes contaminated with hazardous materials must be decontaminated prior to being laundered or discarded through the hazardous waste program.

4. All protective eyewear must meet American National Standards Institute (ANSI) standards and be appropriate for the work being done. Typical prescription spectacles are not suitable eye protection. ANSI protective eyewear that fits over prescription spectacles is available; alternatively, prescription safety eyewear can be ordered through your unit's procurement personnel. Protective eyewear may be removed when using optical microscopes or similar instruments, requiring close contact between the eyes and the eyepieces. For more information on protecting your eyes, please refer to our fact sheet. http://ehs.berkeley.edu/sites/default/files/lines-of-services/workplace-safety/25eyeprot.pdf

B. Protective gloves must be worn while using any hazardous materials, hot or cold liquids (including cryogenics), objects that pose a risk of thermal burns, items having physical hazards or that may cause hand injury. These gloves must be appropriate for the material or process being used and must not interfere with the ability of the worker to work safely. The Safety Data Sheet (SDS) for the material and the manufacturer-specific glove selection guide should be referenced to determine appropriate glove type (http://ehs.berkeley.edu/sites/default/files/lines-of-services/workplace-safety/24msds.pdf). Additional resources can be found here. http://ehs.berkeley.edu/workplace-safety/glove-selection-guide

C. Some operations and procedures may warrant additional PPE, as indicated by the Safety Data Sheet (SDS), the Standard Operating Procedures (SOP), facility policies, regulatory requirements, or the hazard assessment. These might include face shields, aprons, respiratory protection, hearing protection, etc.

Exceptions

A. The minimum personal protective equipment requirements for laboratories or shops do not apply to:

Laboratories or shops which have been designated and posted as free of physical or chemical hazards. Examples include some electron microscope rooms, precision measurement rooms, etc.

B. Exceptions outlined below require written approval from the Office of Environment Health and Safety (EH&S):

1. The establishment of a level of personal protective equipment below the minimum specified in this fact sheet to a laboratory or shop that uses hazardous materials or includes a physical hazard
2. The establishment of any "no PPE required" corridors within laboratories or shops
3. Non-hazardous work areas (e.g., offices, work stations) that are within a laboratory or shop but are clearly delineated by distance or physical barrier (e.g., walls, doors, or cubicle dividers). It must be clear that the area is intended to be a self-contained, dedicated area. Readily movable furniture does not constitute a physical barrier in this context.

- Exceptions for individual desks or work spaces within a laboratory or shop are discouraged.

Resources

For more information on protective eyewear, please refer to our fact sheet.
http://ehs.berkeley.edu/sites/default/files/lines-of-services/workplace-safety/25eyeprot.pdf

For more information on Personal Protective Equipment in Shops, please refer to our Shop Safety Program manual.
http://ehs.berkeley.edu/shop-safety-program