## Selecting Personal Protective Equipment

### Summary:
Personal protective equipment (PPE) is a necessary part of laboratory safety in addition to engineering controls (i.e., laboratory ventilation and laser interlocks) and good work practices. When properly selected and used, personal protective equipment can be effective in minimizing individual exposure. Always inspect personal protective equipment prior to use, and if found to be defective, replace gear as appropriate.

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<th>What to do?</th>
<th>How to do this?</th>
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<td>Determine type of PPE to use.</td>
<td>Consult with PI/Lab Supervisor, Review SOP, SDS and other hazard information to determine appropriate PPE to wear based on chemical and physical hazards encountered.</td>
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| Find out about safety eyewear use and selection. | 1. Safety glasses must have side shields and meet ANSI Z87.1 standards. Prescription glasses are not considered a form of eye protection.  
  2. Contact lenses may be worn if appropriate protective eyewear is also worn. Contact lenses ARE NOT considered a form of eye protection.  
  3. ANSI Z87.1 chemical goggles must be worn during chemical transfer/handling operations or during any other operations having any likelihood for chemical splash or spray (i.e., processes above or below ambient pressure) may occur.  
  4. In addition to safety eyewear, an ANSI Z87.1 face shield is to be worn when working with highly corrosive chemicals, where there is any likelihood for chemical splash/spray, or where flying fragments/particles are generated.  
  5. For procuring prescription ANSI Z87.1 protective eyewear, refer to the [Prescription Safety Glasses Program](#). |
| Find out about glove use and selection. | **Selection:**

1. No single material can protect against all chemical, physical (e.g., cuts, abrasions, burns temperature extremes) or biological hazards. It is critical to select the correct glove for the hazard.

2. Incorrect selection results in false sense of security and increased exposure. [A Dartmouth researcher died in 1997 from exposure to dimethylmercury, which penetrated her latex gloves.]

3. See the Laboratory Chemical Glove Selection for information for selecting gloves for chemical use.

**Inspections:**

1. Inspect gloves before and after each use.
2. Check for perforations by inflating gloves with air or water.
3. Inspect visually for tears or rips.
4. Discoloration or stiffness may indicate chemical degradation.
5. Torn or damaged gloves should be replaced immediately.

**Use:**

1. For disposable gloves, replace when chemical contact occurs, or when damage is suspected.
2. Wash hands after removing gloves (even when double gloving).
3. Remove gloves before you leave the lab or handling objects such as doorknobs, telephones, or computer keyboards.
4. Use designated pens when wearing gloves.

**Cleaning and Storage:**

1. For reusable gloves, wash after removal and air dry in lab.
2. Store gloves in clean area away from chemicals, temperature extremes, and other hazards.

**Disposal:**

1. Dispose of contaminated gloves in the proper hazardous waste container.
| Find out about skin/body protection. | **Laboratory coats**  
1. Lab coats provide some dermal protection from potential hazards including, but not limited to, splashes from chemicals or biological agents and incidental contact from contaminated surfaces.  
2. Flame resistant lab coats provide additional protection against flammability hazards, such as pyrophoric compounds and flammable liquids.  
3. Street Clothing: Wear long pants or equivalent and non-perforated, closed-toe shoes that completely cover the feet.  
**Specific chemical protective clothing**  
1. Wear appropriate chemical-protective clothing (i.e., aprons, oversleeves) when chemical contact to the body is anticipated or when extremely toxic or corrosive chemicals are handled (e.g., hydrofluoric acid). For assistance with selection of protective clothing, contact EH&S at x3-0448. |
| Find out about respiratory protection. | 1. Respiratory protection is not usually required during laboratory operations where work can be performed in a laboratory fume hood.  
2. When it is not feasible to conduct operations within a fume hood, or where there otherwise may be a need for respiratory protection, contact SU EH&S for initial exposure assessment and respirator approval.  
3. If respirator use is required, users must receive a medical evaluation, be fitted, and trained for respirator use prior to using respiratory protection. |
| Find out about hearing protection. | 1. Hearing protection is rarely required during laboratory operations.  
2. If a laboratory operation generates noise conditions in which researchers have to raise their voices to be heard, contact EH&S at 3-0448 for an assessment.  
3. Hearing protectors such as earmuffs or earplugs may be necessary to minimize noise exposures. |