

## Personal Protective Equipment and Clothing

The purpose of the Personal Protective Equipment program is to protect employees from work place hazards and the risk of injury through the use of personal protective equipment (PPE). PPE is not a substitute for more effective control methods and its use will be considered only when other means of protection against hazards are not adequate or feasible. It will be used in conjunction with other controls unless no other means of hazard control exist.

This program addresses general PPE requirements, including eye and face, head, foot and leg, hand and arm, and body (torso) protection. Separate programs exist for respiratory protection, hearing protection, electrical protection and fall protection.

PPE such as protective clothing, respirators, safety glasses/goggles, and gloves shall be used to protect against chemical, radiological, biological, or mechanical hazards and irritants capable of causing injury through physical contact, absorption or inhalation.

Safety goggles, disposable gloves, laboratory coats and other protective clothing are standard for routine laboratory activities when [working with hazardous materials](#). Laboratories must also provide personal protective equipment (i.e. safety glasses, laboratory coat) for visitors and post signs indicating what PPE is required where hazardous materials are in use. Gloves must be removed before leaving the lab, and lab coats may only be worn in research areas. PPE should not be worn in break areas, offices, bathrooms or other areas where personnel would expect an environment free of contamination with hazardous materials.

Personal protective equipment is not typically supplied by EH&S. However, EH&S will assist with recommendations on specific types and uses of protective equipment.

### **Responsibilities**

#### Supervisors

Supervisors have the primary responsibility for implementation of the PPE Program in their work area. This includes:

- Conducting a hazard assessment in their work area.
- Determining what type of PPE is required.
- Ordering the necessary equipment.
- Ensuring the employees are trained on the proper use, care and cleaning of PPE.
- Ensuring the employees are wearing PPE.
- Seeking assistance from EH&S to evaluate hazards.
- Maintaining records on hazard assessments.
- Replacing defective or damaged equipment immediately.

#### Employees

Employees have the primary responsibility for wearing and cleaning the assigned PPE in accordance with the training received.

#### Departments

Departments have the primary responsibility for purchasing PPE for employees.

## Environmental Health and Safety

Environmental Health and Safety (EH&S) has the primary responsibility for the development, implementation and administration of the PPE Program. This includes:

- Assisting in conducting hazard assessments.
- Providing training and technical assistance to supervisors on the proper selection, use and cleaning of PPE

## **Workplace Hazard Assessment**

Supervisors will conduct a walk-through survey of each work area or operation to identify potential hazards. Each survey will be documented using a Hazard Assessment form. This form will identify hazards present or likely to be present in the work area, suggest PPE or other controls needed, and will serve as certification of the hazard assessment performed. The certification of hazard assessment is a written document detailing the hazard assessment for particular tasks and is required by OSHA.

The supervisor may delegate the hazard assessment process, but cannot reassign or disclaim the responsibility. The supervisor is responsible for ensuring that hazard assessments are performed and the certification(s) completed, signed, dated, and available.

This certification of hazard assessment should be reviewed annually and updated anytime a new task which presents a hazard is introduced into the workplace. Re-inspection of the work area may also be required whenever there has been a reported incident or injury.

Supervisors may choose to use any of the following Hazard Assessment Certification formats or devise their own format that's approved by EH&S.

Examples of hazard assessment certification forms:

[PPE Hazard Assessment Certification – long form](#)

[PPE Hazard Assessment Certification – short form](#)

Potential hazards may be physical or health-related and a comprehensive hazard assessment should identify hazards in both categories. Examples of physical hazards include moving objects, fluctuating temperatures, high intensity lighting, rolling or pinching objects, electrical connections and sharp edges. Examples of health hazards include overexposure to harmful dusts, chemicals or radiation.

The hazard assessment should begin with a walk-through survey of the work area to develop a list of potential hazards in the following basic hazard categories:

- Impact
- Penetration
- Compression (roll-over)
- Electrical
- Chemical
- Heat/cold
- Harmful dust
- Light (optical) radiation
- Biological

- Radioactive
- Noise

In addition to noting the basic layout of the facility and reviewing any history of occupational illnesses or injuries, things to look for during the walk-through survey include:

- Sources of electricity.
- Sources of motion such as machines or processes where movement may exist that could result in an impact between personnel and equipment.
- Sources of high temperatures that could result in burns, eye injuries or fire.
- Types of chemicals used in the workplace.
- Sources of harmful dusts.
- Sources of light radiation, such as welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.
- The potential for falling or dropping objects.
- Sharp objects that could poke, cut, stab or puncture.
- Biologic hazards such as blood or other potentially infected material.
- Sources of Ionizing radiation (radioactive materials)
- Ability to avoid or minimize accidental exposure through work practices

When the walk-through is complete, the supervisor should organize and analyze the data so that it may be efficiently used in determining the proper types of PPE required at the worksite. The supervisor should become aware of the different types of PPE available and the levels of protection offered. It is definitely a good idea to select PPE that will provide a level of protection greater than the minimum required to protect employees from hazards.

The workplace should be periodically reassessed for any changes in conditions, equipment or operating procedures that could affect or create occupational hazards. This periodic reassessment should also include a review of injury and illness records to spot any trends or areas of concern, and the initiation of appropriate corrective action as indicated. The suitability of existing PPE, including an evaluation of its condition and age, should be included in the reassessment.

Documentation of the hazard assessment is required through a written certification that includes the following information:

- Identification of the workplace evaluated.
- Name of the person conducting the assessment.
- Date of the assessment.
- Identification of the document certifying completion of the hazard assessment.

### **Cleaning and Maintenance of PPE**

It is the employee's responsibility to ensure their PPE is clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. PPE should be inspected, cleaned and maintained at regular intervals as instructed by the supervisor or recommended by the manufacturer.

It is also important to ensure that contaminated PPE, which cannot be decontaminated, is disposed of in a manner that protects employees from exposure to hazards.

### **Training Certification**

Employees required to wear PPE will receive training on its proper use and care prior to using the equipment. The training will include the following:

- When PPE is needed.
- What PPE is needed.
- How to properly wear and adjust the PPE.
- Limitation of the PPE.
- Proper care, maintenance and disposal of PPE.

Once trained, employees must demonstrate that they understand how to use their assigned PPE, or they will be retrained. Retraining will be necessary in the following situations:

- An incident occurs which indicates the employee has not retained the training on the proper use of the PPE.
- New equipment or processes are introduced to the workplace.
- Changes in the employee's job duties require different PPE.
- Changes in the style or type of PPE used makes the previous training out-of-date.
- The employee is observed incorrectly using the assigned PPE.

The supervisor must ensure and verify that each affected employee has received and understood the required training through a written certification for each employee. The training certification is an OSHA requirement and will contain the name of the employee trained, date of training and identify the PPE covered in the training. These certificates should be kept in the employee's training file.

EH&S provides PPE training for respirator use to those employees enrolled in the respirator program. For most other PPE use, supervisors are required to provide and document employee training. Consult the Safety Manual or contact EH&S for guidance regarding proper use and care of PPE. Contact EH&S for assistance in evaluating workplace hazards to determine PPE requirements and for recommendations on types of PPE available.

Examples of PPE training certifications:

[PPE Training Certification - by job classification or task](#)

[PPE Training Certification – single employee](#)

### **Sequence of Implementation**

1. Conduct and document PPE assessment for each work task or assignment.
2. Select PPE.
3. Communicate selection decisions to employee.
4. Provide PPE (obtain, purchase, rent, etc.).
5. Train each affected employee.
6. Test employee understanding.

7. Document training.
8. Retrain as necessary.
9. Enforce the requirements.

### **Specific Personal Protective Equipment**

[Gloves](#)

[Eye and Face Protection](#)

[Head Protection](#)

[Body Protection including Laboratory Coats and Other Protective Clothing](#)

[Respiratory Protection](#)

[Hearing Conservation](#)

[Foot and Leg Protection](#)

### **Proper Care and Use of PPE or Gloves Outside of the Lab or Work Area**

University policy requires the use of appropriate gloves, safety glasses, lab coats, and other personal protective equipment within the laboratory. All contaminated, potentially contaminated, or the perception of potentially contaminated protective clothing and equipment beyond the lab may create a hazard or project a careless image to both colleagues and visitors.

Wearing gloves outside the lab should be minimized, except to move hazardous materials between laboratories (if approved by departmental policies). Instead, transport chemicals from place to place on a cart, in a clean secondary container, or in a bottle carrier with secure handles.

If there is a need to transport hazardous materials, use a clean, ungloved hand to touch common surfaces and a gloved hand to carry the items: the one-glove rule. Alternatively, package the material so it may be handled without gloves. Departments may have additional policies. (Do not transport chemicals, dry ice or cryogenic liquid in a private vehicle. Be aware that strict federal and state regulations address the transport of hazardous (i.e., biological, chemical, radiological) materials on public roads. Contact EHS for further information or assistance.)

Gloves should never come in contact with door handles, elevator buttons, telephones, lavatory faucets, vending machines, bottled-water dispensers, ice-making machines, or other surfaces outside the laboratory.

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### **Additional Information and Resources**

- [CDC guide to chemical protective clothing](#)
- [ANSI Z87.1 and ANSI Z136.1](#)
- [OSHA](#)