Temple University
Environmental Health and Radiation Safety

Standard Operating Procedure

PPE Requirements for Chemical Hazards

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Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to chemicals and other hazards that cause serious injuries and illnesses. PPE creates a barrier between the ports of entry (mouth, skin, mucous membranes, and respiratory system) and the hazardous chemicals that may be encountered in the laboratory. The correct selection and proper use of PPE is an essential element of safe work in the laboratory.

PPE is the last line of protection behind administrative controls/policies, following safe work practices, and exposure control equipment, such as chemical fume hoods.

Each Principal Investigator (PI) is responsible for the proper selection, use and maintenance of PPE in laboratories under their control.

PROCEDURES

1. The PI and/or Laboratory Safety Contact (LSC) must document a lab-specific hazard assessment to identify the potential hazards present, and the associated level of PPE required. Use the Laboratory Hazard Assessment for Chemical Handling (LHACH) to document the required PPE for the use of chemicals in the laboratory. The potential chemical hazards presented by typical laboratory procedures and the corresponding PPE are found on the form. The list does not include all laboratory procedures. Additional tasks and PPE should be added as necessary on the form.

   PPE is selected based on the potential hazards presented by the work. Scrutinize each laboratory procedure individually for potential hazards based on the chemicals to be used and the procedure to be performed. The hazard assessment is then used to determine the appropriate PPE.

   Groups with multiple lab spaces should conduct an assessment for each space, particularly if the potential hazards vary significantly. Multiple assessments will provide a

more accurate representation of the hazards and PPE requirements of a given space.

Laboratory room ventilation and the availability of chemical fume hoods make the use of respiratory protection unnecessary in most cases. In rare occasion that respiratory protection is needed, contact EHRS to enroll in the University Respiratory Protection Program.

2. Once the hazards have been identified, the PI and/or LSC must determine if the hazards can be eliminated or reduced by methods other than PPE (engineering and/or administrative controls). If those methods are not feasible, the PI and/or LSC will determine the suitability of the PPE presently available, and as necessary, will select new or additional equipment which ensures a level of protection that meets or exceeds NIOSH, ANSI and other standards and regulatory requirements. Adequate protection against the highest level of protection for each of the hazards must be recommended for purchase. All PPE and equipment will be of safe design and construction and must be maintained in a sanitary and reliable condition. Affected laboratory personnel whose jobs require the use of PPE will be informed of the PPE selection and will be provided PPE for use. Careful consideration must be given tot eh comfort and proper fir of PPE in order to ensure that it will be used.

3. Laboratory personnel must receive training, which includes proper PPE for their job/tasks, when PPE must be worn, how to don/doff, adjust, maintain, proper disposal of PPE, and the limitations of the PPE. The PI and/or LSC must ensure that the training is documented. PPE is not a substitute for more effective control methods, and its use will be considered when other means of protection against hazards are not adequate or feasible. EHRS can provide guidance with the hazard assessment and can assist with PPE training upon request.

PPE-SPECIFIC TRAINING

All laboratory personnel using a specified chemical or process must be trained on the necessary PPE and this training must be recorded.

DOCUMENTATION

The Laboratory Hazard Assessment for Chemical Handling (LHACH), general chemical SOPs, laboratory-specific SOPs, and applicable training records must be available to all laboratory personnel and upon request by EHRS, Regulatory agencies and other University personnel.