



Personal Protective Equipment (PPE) Program

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INTRODUCTION

Policy Statement

It is Bowling Green State University's policy to comply with the occupational safety and health standards of the Ohio Public Employees Risk Reduction Act and all Applicable Federal, State, and Local rules, regulations, and directives."

Approved October 7, 1994
Board of Trustees

Forward

In 1970, the United States Congress established the right of workers to have "safe and healthful working conditions" through the Occupational Safety and Health Act. This act created the Occupational Safety and Health Administration (OSHA). In July 1994, the state of Ohio adopted and incorporated, by reference, many of the Federal OSHA standards through the Public Employee Risk Reduction Act, Ohio Revised Code 4167.07. This Act and its subsequent rules (Ohio Administrative Code 4167-3-01) require Bowling Green State University and other state institutions to comply with all applicable OSHA standards.

Bowling Green State University's Personal Protective Equipment Program has been established to comply with Ohio's Public Employee Risk Reduction Act and the OSHA Personal Protective Equipment standard (29 CFR 1910 Subpart I).

Objective

The purpose of BGSU's Personal Protective Equipment (PPE) Program is to prevent exposure to workplace hazards, document hazard assessments, put corrective measures in place, and implement the use of PPE at BGSU. PPE devices are not to be relied on as the only means to provide protection against hazards. The best approach is to abate the hazard first through engineering controls (change in process, elimination of process, chemical substitution, etc), with PPE to provide protection against hazards, which cannot reasonably be abated otherwise. PPE should be used in conjunction with guards, engineering controls, and sound manufacturing practices. This program will be used in conjunction with other BGSU policies and procedures involving the protection of workers in the work place, including BGSU's Hazard Communication Program, Respiratory Protection Program and Hearing Conservation Program.

Applicability

This program contains the requirements for practices and procedures to protect Bowling Green State University employees from hazards that exist in their work environment.

Responsibilities

Sr. Industrial Hygienist is responsible for

- coordinating the PPE Program;
- assisting departments with hazard assessments, analysis of injury / illness data, selection of PPE and training;
- considering and assisting in the implementation of engineering controls for recognized hazards and;
- maintaining copies of hazard assessments, reassessments, and PPE selection documentation.

Management (Department Chairpersons and Directors) are responsible for

- supplying PPE to employees at no cost and;
- providing employees with adequate training.

Supervisors are responsible for

- attending the PPE₁ training session offered by Environmental Health and Safety;
- performing hazard assessments and reassessments;
- fitting employees with PPE, issuing PPE, and providing the manufacturers instructions for use, care, limitations, and warnings;
- providing documentation to Environmental Health and Safety of hazard assessments and reassessments;
- ensuring all employees are trained on the PPE program and it's requirements;
- maintaining records of hazard assessments, reassessments, training, retraining, and PPE selection;
- enforcing the PPE program by ensuring that all subordinates comply with all facets of BGSU's PPE program, including inspection and maintenance and;
- providing a copy of the PPE Program to employees upon their request.

Employees are responsible for

- attending the PPE₂ training session offered by Environmental Health and Safety;
- properly wearing, cleaning, maintaining, and inspecting all assigned PPE, according to the manufacturer's instructions, and following the PPE program requirements;
- returning all damaged PPE to their immediate supervisor, to receive a replacement and;
- only using the PPE provided by the university.

Program Enforcement

A violation of a University employee's responsibility must be reported to the employee's immediate supervisor for appropriate action.

HAZARD ASSESSMENT

In order to assess the need for PPE, the following steps must be taken:

- Each immediate supervisor shall conduct a hazard assessment for all positions under their supervision using the BGSU PPE Hazard Assessment form (see Appendix A). A copy of the completed form must be sent to Environmental Health and Safety.
- Engineering controls must be considered and implemented, where possible, to abate any hazards found.
- It is the responsibility of each immediate supervisor to periodically reassess the workplace. If job hazards or PPE have changed, simply indicate this on the PPE Hazard Assessment form and return to Environmental Health and Safety or contact the Sr. Industrial Hygienist for re-evaluation.

Elements to consider in the reassessment include:

- ✓ Effectiveness of PPE Program
- ✓ Injury and illness experience
- ✓ Levels of exposure
- ✓ Adequacy of equipment selection
- ✓ Number of hour's workers wear various protective equipment
- ✓ Adequacy of training/fitting of PPE
- ✓ Program costs
- ✓ The adequacy of program records
- ✓ Coordination with overall safety and health program
- ✓ New equipment and/or processes

SELECTION GUIDELINES

After completion of the hazard assessment, Environmental Health and Safety will assist in the following procedure used for selection of personal protective equipment:

- Review possible engineering controls before deciding to use PPE.
- Match the potential hazards with the most appropriate types of PPE using the PPE Selection Guidelines found in Appendix B of this program. The guideline categories include hand protection, eye and face protection, head protection, foot protection, and protective clothing. If, during the hazard assessment, a noise or respiratory hazard is indicated, the Sr. Industrial Hygienist will provide additional program information and evaluation.
- Careful consideration must be given to comfort and fit. Departments will provide the user with proper, well-fitted protective devices. PPE that fits poorly will not provide adequate protection. Care should be taken to ensure that the right size is selected. Defective and damaged equipment or PPE shall not be used.
- After the equipment has been purchased and issued, employees and supervisors will be required to attend the PPE₂ training session.

TRAINING

Initial Training

PPE₁ Training Session

This training session is provided by Environmental Health and Safety and is intended for supervisors. The following information will be covered:

- The importance of personal protective equipment;
- A summary of the OSHA Personal Protective Equipment standard (29 CFR 1910 Subpart I);
- An overview of BGSU's written program and where it is located;
- An explanation of how Environmental Health and Safety can assist departments in implementation.

PPE₂ Training Session

This training session is department specific and is provided by Environmental Health and Safety. It is intended for supervisors and employees. The following information will be covered:

- The importance of personal protective equipment;
- An overview of BGSU's written program and where it is located;
- When PPE is necessary;
- What PPE is necessary;
- How to wear assigned PPE;
- Limitations of PPE and;
- The proper care, maintenance, useful life, and disposal of assigned PPE.

Retraining

Each affected employee shall demonstrate an understanding of the training and the ability to use PPE properly before being allowed to perform work requiring the use of PPE. When the supervisor has reason to believe that any affected employee, who has already been trained, does not have a clear understanding and skill required, the supervisor shall see that the employee is retrained. Contact Environmental Health and Safety for questions or concerns.

Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace or changes in the types of PPE to be used which would render previous training obsolete or;
- Inadequacies in an employee's or supervisor's knowledge in the use of the assigned PPE.

When retraining occurs, a written certification that contains the name of each employee trained, the date, and the subject of the certification is required.

CLEANING AND MAINTENANCE

It is important that all PPE be kept clean and properly maintained by the employee assigned to the equipment. Cleaning is particularly important for eye and face protection. Dirty or fogged lenses can impair vision. PPE is to be inspected, cleaned, and maintained by employees at regular intervals and as stated in the manufacture's instructions.

If the piece of PPE is in need of repair or replacement, it is the responsibility of the employee to bring it to the immediate attention of his/ her supervisor. Do not use PPE if it is in need of repair or if it is not able to perform its intended function.

Contaminated PPE, which cannot be decontaminated, must be disposed of in a manner that protects employees from exposure to the hazard. Follow your department's procedures. To inquire about the proper disposal methods of contaminated PPE, contact Environmental Health and Safety at 372-2171.

REFERENCES

1. <http://www.osha.gov/>. Occupational Safety and Health Administration.
2. <http://www.bgsu.edu/offices/envhs/ppe/documents/ppeprogram.pdf>. Bowling Green State University. Hazard Communication Program.
3. http://www.bgsu.edu/offices/envhs/ppe/respiratory/documents/respiratory_protection_program.PDF. Bowling Green State University. Respiratory Protection Program.
4. <http://www.bgsu.edu/offices/envhs/ppe/hearing/index.htm>. Bowling Green State University. Hearing Conservation Program.

APPENDIX A - HAZARD ASSESSMENT

Job Title _____
 Supervisor's Name _____
 Department _____

Form Completed By _____
 Occupational Safety and Health Specialist _____
 Date _____

Task	Impact - falling objects or potential for dropping objects	Penetration - Objects or machinery that may cause punctures, cuts, and/or abrasions	Compression - Machinery/heavy objects that may roll over and crush or pinch feet/hands	Chemical - Chemical exposures (inhalation or contact with the skin and eyes)	Heat - Hot work areas & sources of high temperature that could result in burns, eye injury, or ignition of PPE	Harmful Dust - Dust from sandblasting, sawing, grinding, or other generation of airborne dust	Optical Radiation - Sources of light radiation (welding, cutting, lasers, high intensity lights)	Biological - Exposures to blood or other body fluids, mold, or other biological exposures	Noise - Excessive noise (louder than a hair dryer)	Electrical - Specify	Other - Specify

APPENDIX B – PPE SELECTION GUIDLEINES

Selection Chart Guidelines For Eye and Face Protection

Some occupations (not a complete list) for which eye protection should be routinely considered are: carpenters, electricians, machinists, mechanics and repairers, millwrights, plumbers and pipe fitters, sheet metal workers and tinsmiths, assemblers, sanders, grinding machine operators, lathe and milling machine operators, sawyers, welders, laborers, chemical process operators and handlers, and timber cutting and logging workers. The following chart provides general guidance for the proper selection of eye and face protection to protect against hazards associated with the listed hazard "source" operations.

Eye and Face Protection Selection Chart

Source	Assessment of Hazard	Protection
IMPACT – Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting and sanding.	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shields. See (1), (3), (5), (6), and (10). For severe exposure, use faceshield.
HEAT – Furnace operations, pouring, casting, hot dipping and welding.	Hot sparks	Faceshields, goggles, spectacles with side protection. For severe exposure use faceshield. See notes (1), (2) and (3).
	Splash from molten metals	Faceshields worn over goggles. See notes (1), (2), and (3).
	High temperature exposure	Screen face shields, reflective face shields. See notes (1), (2) and (3).
CHEMICALS – Acid and chemicals handling, and degreasing plating.	Splash	Goggles, eyecup and cover types. For severe exposure, use face shield. See notes (3) and (11).
	Irritating mists	Special-purpose goggles.

Eye and Face Protection Selection Chart

Source	Assessment of Hazard	Protection
DUST – Woodworking, buffing, general dusty conditions.	Nuisance dust	Goggles, eyecup and cover types. See note (8).
LIGHT and/or RADIATION		
Welding: Electric arc	Optical radiation	Welding helmets or welding shields. Typical shades: 10-14. See notes (9) and (12).
Welding: Gas	Optical radiation	Welding goggles or welding face shield. Typical shades: gas welding 4-8, cutting 3-6, brazing 3-4. See note (9).
Cutting, torch brazing, torch soldering	Optical radiation	Spectacles or welding face shield. Typical shades: 1.5-3. See notes (3) and (9).
Glare	Poor vision	Spectacles with shaded or special purpose lenses, as suitable. See notes (9) and (10).

Notes to Eye and Face Protection Selection Chart

1. Care should be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards should be provided. Protective devices do not provide unlimited protection.
2. Operations involving heat may also involve light radiation. As required by the standard, protection from both hazards must be provided.
3. Face shields should only be worn over primary eye protection (spectacles or goggles).
4. As required by the standard, filter lenses must meet the requirements for shade designations in 1910.133(a)(5). Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
5. As required by the standard, persons whose vision requires the use of prescription (Rx) lenses must wear either protective devices fitted with prescription (Rx) lenses or protective devices designed to be worn over regular prescription (Rx) eyewear.
6. Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments may represent an additional hazard to contact lens wearers.
7. Caution should be exercised in the use of metal frame protective devices in electrical hazard areas.
8. Atmospheric conditions and the restricted ventilation of the protector can cause lenses to fog. Frequent cleansing may be necessary.
9. Welding helmets or faceshields should be used only over primary eye protection (spectacles or goggles).
10. Non-sideshield spectacles are available for frontal protection only, but are not acceptable eye protection for the sources and operations listed for "impact."
11. Ventilation should be adequate, but well protected from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation and protects the wearer from splash entry.
12. Protection from light radiation is directly related to filter lens density. See note (4) . Select the darkest shade that allows task performance.

Selection Guidelines For Head Protection

All head protection (helmets) is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. When selecting head protection, knowledge of potential electrical hazards is important. Class A helmets, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts). Class B helmets, in addition to impact and penetration resistance, provide electrical protection from high-voltage conductors (they are proof tested to 20,000 volts). Class C helmets provide impact and penetration resistance (they are usually made of aluminum which conducts electricity), and should not be used around electrical hazards.

Where falling object hazards are present, helmets must be worn. Some examples include: working below other workers who are using tools and materials which could fall; working around or under conveyor belts which are carrying parts or materials; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

Some examples of occupations for which head protection should be routinely considered are: carpenters, electricians, linemen, mechanics and repairers, plumbers and pipe fitters, assemblers, packers, wrappers, sawyers, welders, laborers, freight handlers, timber cutting and logging, stock handlers, and warehouse laborers.

Selection Guidelines For Foot Protection

Safety shoes and boots which meet the ANSI Z41-1991 Standard provide both impact and compression protection. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal protection should be provided, and in other special situations electrical conductive or insulating safety shoes would be appropriate.

Safety shoes or boots with impact protection would be required for carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and, for other activities where objects might fall onto the feet. Safety shoes or boots with compression protection would be required for work activities involving skid trucks (manual material handling carts) around bulk rolls (such as paper rolls) and around heavy pipes, all of which could potentially roll over an employee's feet. Safety shoes or boots with puncture protection would be required where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal etc., could be stepped on by employees causing a foot injury.

Some occupations (not a complete list) for which foot protection should be routinely considered are: shipping and receiving clerks, stock clerks, carpenters, electricians, machinists, mechanics and repairers, plumbers and pipe fitters, structural metal workers, assemblers, drywall installers and lathers, packers, wrappers, craters, punch and stamping press operators, sawyers, welders, laborers, freight handlers, gardeners and grounds-keepers, timber cutting and logging workers, stock handlers and warehouse laborers.

Selection Guidelines For Hand Protection

Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure. OSHA is unaware of any gloves that provide protection against all potential hand hazards, and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn, and whether it can be reused.

It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated; e.g., chemical hazards, cut hazards, flame hazards, etc. These performance characteristics should be assessed by using standard test procedures. Before purchasing gloves, the employer should request documentation from the manufacturer that the gloves meet the appropriate test standard(s) for the hazard(s) anticipated.

Other factors to be considered for glove selection in general include:

- A. As long as the performance characteristics are acceptable, in certain circumstances, it may be more cost effective to regularly change cheaper gloves than to reuse more expensive types; and,
- B. The work activities of the employee should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied.

With respect to selection of gloves for protection against chemical hazards:

- a. The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects;
- b. Generally, any "chemical resistant" glove can be used for dry powders;
- c. For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials; and,
- d. Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

Selection Guidelines For Personal Protective Clothing

The OSHA standards do not provide specific guidelines for the selection of protective clothing, however, OSHA does still expect compliance in this area. Therefore, follow the same guidelines in selecting protective clothing as you would for selecting gloves.