

Personal Protective Equipment (PPE) Selection Guide

This document is intended to help supervisors perform personal protective equipment assessments, and complete the *Workplace Hazard Assessment & Personal Protective Equipment (PPE) Certification Form* (MP08011). If additional help is needed to complete the assessment(s) please contact SEM at 581-4055. Specialized training courses are available.

The purpose of completing a written Workplace Hazard Assessment & Personal Protective Equipment (PPE) Certification Form is to determine what hazards are present and what PPE is necessary to protect employees/students and provide a systematic approach for documentation and training of future employees/students. Safety hazards will be categorized as physical (falling objects) and health hazards (chemical and biological hazards). Controls to eliminate the hazards will be implemented or PPE will be selected to perform the job tasks safely.

Eliminate the Need for Personal Protective Equipment

Prior to providing individuals with PPE, supervisors must determine whether or not the task requiring the use of the PPE is necessary. If the task is not necessary it should be eliminated. If the task is required, supervisors need to consider substituting the task for a less hazardous process (or chemical). If the task or hazards can not be eliminated then engineering controls explored to minimize exposure. If workplace hazards cannot be managed through elimination, substitution, or engineering controls then PPE must be used to protect employees/students.

Selecting Personal Protective Equipment (PPE)

First – Supervisors should ask employees/students what PPE they feel is needed to complete their tasks safely. For instance, if employees/students are concerned about scraping their knees and that they think knee pads are needed (or supervision notices an over abundance of scraped knees), then the supervisor should assess whether the knee pads are needed or if employees/students practices should be altered.

Second - Supervisors must periodically monitor the employees/students performing their various job tasks, noting any hazards to which the employees/students are exposed. For example: if particles blow or fall into employees/students eyes then eye protection with side shields are needed. Or, if there is a potential for tree branches, rocks, or tools falling from above then, hard hats are required, unless the hazard is eliminated.

Watch for hazards based on the criteria set forth in the Personal Protective Equipment Policy and this selection guide.

Third - Once a PPE Hazard Assessment has been conducted, the supervisor must complete a “Workplace Hazard Assessment & Personal Protective Equipment (PPE) Certification” form for each job task, and perform the required employee training as specified on the form. A

copy of each certification must to be maintained on file in your department for Department of Labor (DOL) or SEM review.

Normal Work Clothing

Supervisors must determine what clothing is appropriate for each job task or work environment. For example - if employees are subject to having their legs, feet, and arms scraped (by rocks, raspberry bushes, willows, etc.) then long pants, long-sleeved shirts, socks, and shoes (no sandals) are required.

Factors which could affect the selection of normal work attire include, but are not limited to, temperature, biological activity (mosquitoes and black flies), and exposure to sunlight.

Respiratory Protection & Hearing Protection

Respirator selection is based upon potential contaminant(s), worker exposure level, and a work rate. The employee must be evaluated by a medical doctor to determine if they are *fit* to wear a respirator. You must consult with the SEM prior to selecting any respiratory protection. After the selection process, the employee must be fit tested in the selected respirator.

Noise Exposures

Selection of hearing protectors should be based on the workers exposure (Dose). If you believe that employees/students in your area are exposed to noise levels that warrant hearing protection, or if you are unsure whether or not hearing protection is needed, contact SEM at (207) 581-4055 to have the noise exposure(s) assessed.

Eye and Face Protection

Eye and face protection is needed when employees/students are potentially exposed to hazards created by flying particles, molten metal, liquid chemicals, gases or vapors, or injurious light radiation.

Eye and face protection must meet the requirements as outlined in the American National Standards Institute (ANSI Z87.1). This equipment will be marked with “ANSI Z87”, denoting that it meets these requirements.

Supervisors can use the following questions to help select eye and face protection:

- | | | |
|-------------------|-----------|----------|
| Chemical Splashes | yes _____ | no _____ |
| Dust | yes _____ | no _____ |
| Smoke and Fumes | yes _____ | no _____ |
| Projectiles | yes _____ | no _____ |
| Welding | yes _____ | no _____ |
| Heat | yes _____ | no _____ |
| Glare | yes _____ | no _____ |
| Biohazards | yes _____ | no _____ |

Supervisor's description of Eye and Face Hazards (for future reference):

Based on the hazard(s) noted above what Eye & Face Protection is needed?

- _____ Face Shield
- _____ Splash Proof Goggles
- _____ Puncture Resistant Glasses or Goggles
- _____ Shaded Lenses
- _____ Welding Mask
- _____ Other (Explain)

Head Protection

If individuals work in areas where they are potentially exposed to falling objects or overhead electrical hazards, then appropriate head protection is required.

Head protection must meet ANSI Z89.1(1997) requirements for the associated hazards. There are different types of hard hats for different hazards. Approved head protection will be marked with the applicable ANSI Z89 number.

Hazards to consider Include:

- | | | |
|---|-----------|----------|
| Suspended loads that could fall? | yes _____ | no _____ |
| Beams or loads that could strike a worker's head? | yes _____ | no _____ |
| Live parts that may contact a worker's head? | yes _____ | no _____ |
| Overhead work being performed? | yes _____ | no _____ |
| Potential for moving objects in the air | yes _____ | no _____ |

Supervisors description of overhead hazard(s), & description of required head protection:

Based on the description above, is a hard hat needed, and if so what Class and Type?

CLASS:

- _____ Class G (General) - Impact and Penetration Resistant, and proof tested at 2200 volts.
- _____ Class (Electrical) - Impact and Penetration Resistant, and proof tested at 20,000 volts.
- _____ Class (Conductive) – This class has no electrical insulation, - Impact and Penetration Resistant.

TYPE:

_____ Type I – Provides protection strictly from blows to the top of the head.

_____ Type II – Provides protection blows to the top of the head and sides of the head.

Note: Bump Caps do not comply with ANSI guidelines and are not acceptable for occupations or applications where OSHA/DOL requires ANSI compliant hard hats.

Foot Protection

Foot protection must be worn by individuals who work in areas where they are exposed to a danger of foot injuries created by falling or rolling objects, the presence of objects that could pierce the sole, and electrical hazards.

The footwear needs to meet ANSI Z41 standards, and will be marked accordingly.

Are worker’s feet exposed to:

- Heavy materials that could fall? yes _____ no _____
- Sharp edges or points (puncture risk)? yes _____ no _____
- Exposed electrical wires? yes _____ no _____
- Unusually slippery/Icy conditions? yes _____ no _____
- Chemical hazard(s)? yes _____ no _____

Supervisor’s description of Foot Hazards:

Foot Protection - Select appropriate foot protection based upon hazards identified.

Safety Shoes - yes _____ no _____

If yes, what type(s)?

- _____ Toe Protection
- _____ Metatarsal Protection
- _____ Puncture Resistant
- _____ Electrical Insulation
- _____ Other (Explain) →

Hand & Arm Protection

Appropriate hand protection must be selected for workers whose hands are exposed to chemicals that can be absorbed through the skin, sharp corners, edges or tools; surfaces that could severely abrade the skin; chemicals that could burn; temperatures that could damage the skin; splintering objects; and animal teeth, claws and/or stingers.

The following questions can be used to determine what hand/arm protection is needed:

Hazardous chemicals?	yes _____	no _____
Sharp Edges, Splinters, etc?	yes _____	no _____
Extreme temperatures?	yes _____	no _____
Exposed Electrical Wires?	yes _____	no _____
Sharp Tools, Machine Parts, etc?	yes _____	no _____
Abrading surfaces?	yes _____	no _____

Supervisor's description of Hand/Arm Hazards:

Type of hand/arm protection needed:

_____ Kevlar or Cut Resistant Gloves &/or Arm Protection.
_____ Leather Gloves &/or Arm Protection.
_____ Chemical Resistant Gloves &/or Arm Protection.
_____ Other (describe) _____

Selection and Use Of Chemical Protective Clothing

More than just the MSDS should be consulted when selecting gloves, boots, or whole body protection to guard against chemical exposures. (*Note - When considering whole body protection please consider whether or not the hazard is in the solid, liquid, or gaseous state.) Material Safety Data Sheets (MSDS) provide a good starting place when selecting chemical protective clothing; however, MSDS's are very general and do not provide sufficient information. For instance - MSDS's will state that rubber gloves should be used to protect against chemical X. They do not specify the type of rubber glove(s) (i.e. neoprene, nitrile, natural rubber, etc.), nor do they state when to change the gloves.

Gather the information needed to select and change chemically protective clothing by referencing the clothing manufacturer's recommendations. Manufacturer's test their chemical protective clothing against various chemicals, and then list the test results in a chart (i.e. glove chart). Note - Most manufacturers make this information available over the internet or contact SEM for assistance.

Manufacturers list how much time is required for a chemical to breakthrough various materials (based on permeation rate and the thickness of the material). This time is known as the *breakthrough* time. For simplicity, clothing should be changed once breakthrough has occurred.

FINAL NOTE

- Regarding Exposure Live Electrical Components - PPE selection and use only applies to workers qualified to conduct this type of work. Contact SEM for further evaluation. DO NOT WORK on or near live electrical components. Eliminate electrical hazards by shutting off the electricity and Locking Out the main power source. Please reference the University of Maine Lock-Out Tag-Out/Zero Mechanical State policy and program for further information.