

Personal Protective Equipment Program

I. Purpose

The purpose of the Personal Protective Equipment Program is to define the basic elements and responsibilities of the program in order to ensure the safe and appropriate use of personal protective equipment on the Montana Tech campuses. This program will ensure compliance with the regulations governing personal protective equipment, OSHA 29 CFR 1910.132, 133, 135, 136 and 138.

II. Definition

Personal Protective Equipment (PPE) means any equipment or clothing designed to create a barrier to protect a person from chemical, physical or mechanical hazards. PPE includes, but is not limited to, chemical goggles, plain and prescription safety glasses with side shields, face shields, welder's helmets, gloves, chemical aprons, protective suits, protective footwear, chemical boots, hearing protection, respirators, and hard hats.

III. Responsibilities

A. **Deans, Department Heads, Program Managers, and the Physical Facilities Director or their designee** are responsible for:

1. Identifying personnel and/or tasks in their areas that may require the use of PPE.
2. Requesting that Environmental Health and Safety (EH&S) perform a hazard assessment when appropriate and necessary. See Appendix A for Hazard Assessment form
3. Requesting any required training from EH&S.
4. Providing PPE determined by the hazard assessment.
5. Enforcing the use of required PPE.

B. **Office of Environmental Health and Safety** is responsible for:

1. When requested, performing hazard assessments of work areas to determine if hazards are present or are likely to be present.
2. Providing the written certification required for any assessments performed.
3. Assisting in the proper selection of PPE. See Appendix B for guidelines.
4. Providing the required training for any personnel who must wear PPE. See Appendix C for listing by job classification.
5. Maintaining hazard assessment and training records.
6. Reviewing and updating this program as appropriate.

C. **Montana Tech Employees** are responsible for:

1. Using only department-issued or department-approved PPE.
2. Wearing all required PPE in accordance with any training received, maintaining PPE in clean serviceable conditions at all times, and replacing any defective PPE.
3. Attending all required training.

IV. Training

- A. Training will be provided to each employee and student who is required to use PPE.
- B. All training must be documented.


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Appendix A: Hazard Assessment Form

Head Hazards

Tasks that can cause head hazards include, but are not limited to, working below other workers who use tools and materials which could fall, working on energized electrical equipment, welding, working with chemicals and working under machinery or processes which might cause materials or objects to fall.


Check the appropriate box for each hazard:

		Yes	No	Description of hazards:
	Dust/Flying Debris			
	Chemical Exposure			
	Electrical Shock			
	Impact			
	UV/IR Radiation			
	Low Clearance			
	Other			

Eye and Face Hazards

Tasks that can cause eye or face hazards include, but are not limited to, working with chemicals, chipping, grinding, furnace operations, sanding, welding, UV radiation and woodworking.


Check the appropriate box for each hazard:

		Yes	No	Description of hazards:
	Chemical Exposure			
	Dust/Flying Debris			
	High Heat/Cold			
	Impact			
	UV/IR Radiation			
	Other			

Respiratory Hazards

Tasks that are associated with respiratory hazards include, but are not limited to, welding, grinding spray painting, working in confined spaces, chemical processing and potential exposure to asbestos, lead, silica or other particulate hazards. Exposures to these and other respiratory hazards can make you sick or can be deadly. These hazards come in the form of gases, vapors, dusts, mists, fumes, smoke, sprays and fog.


Check the appropriate box for each hazard:

		Yes	No	Description of hazards:
	Mists			
	Chemical Exposure Gas or Vapors			
	Dust or Particulate			
	Fumes			
	Oxygen Deficiency			
	Other _____			

Hearing Hazards

Tasks that can cause hearing hazards include, but are not limited to, working with or around loud machinery or tools in mechanical rooms, machining, grinding, sanding, pneumatic equipment, grounds equipment, generators, chillers, motors, saws, jackhammers or similar equipment.


Check the appropriate box for each hazard:

		Yes	No	Description of hazards:
	Loud Noise			
	Impact Noise			
	Other _____			

Hand/Arm Hazards

Tasks that can cause hand hazards include, but are not limited to, exposure to cut or abrasion hazards, working with chemicals, working with very hot or cold objects or materials and exposure to sharps.


Check the appropriate box for each hazard:

		Yes	No	Description of hazards:
	Chemical Exposure			
	Cuts/Abrasion			
	Puncture			
	High Heat/Cold			
	UV/IR Radiation			
	Electric Shock			
	Other			

Foot/Leg Hazards

Tasks that can cause foot hazards include, but are not limited to, carrying or handling materials that could be dropped, performing manual material handling, welding, cutting, electrical work and working with chemicals.


Check the appropriate box for each hazard:

		Yes	No	Description of hazards:
	Chemical Exposure			
	Compression			
	Impact			
	Puncture			
	Electrical			
	Slippery/Wet Surfaces			
	High Heat/Cold			
	Molten Metal			
	Other			

Other Required PPE

Do hazards exist that require PPE for the Body? Chemical exposure, abrasive blasting, welding, cutting or brazing, chipping, sanding or grinding, electrical arc hazards and bloodborne pathogens are some examples of hazards that can affect the body. These hazards may require PPE to protect clothing and skin from harm or contamination.

Check the appropriate box for each hazard:

		Yes	No	Description of hazards:
	Chemical Exposure			
	High Heat/Cold			
	Hazardous Particulate ie Asbestos/Lead			
	Non-Hazardous Particulate			
	Electrical Arc			
	Cuts/Abrasions			
	Other _____			

Company Name: _____

Location: _____

On the following date(s), _____, a comprehensive assessment of workplace hazards requiring the use of personal protective equipment, as required by 29 CFR 1910.132 (d) of the OSHA General Industry Standards, was conducted at this facility to the best of my knowledge based on the current conditions.

Printed Name: _____ Job Title: _____

Signature: _____ Date: _____

Guidelines for Selecting Personal Protective Equipment (PPE)

Work-practice controls should be implemented before utilizing PPE to control worker exposures to hazards in the workplace. This is based on OSHA's hierarchy of controls which includes: engineering controls, administrative controls and work-practice controls. PPE alone should not be relied on to provide protection against hazards. PPE should be used in conjunction with engineering controls and administrative controls. PPE is viewed as the last line of defense

Factors to consider when selecting PPE:

- Familiarize yourself with the potential hazards in the area and the types of PPE that are available
- Consider the hazards associated with the environment (impact velocities, masses, projectable shape, radiation intensities, etc.)
- Consider the following basic hazard categories:
 - Impact (falling/flying objects)
 - Penetration (sharp objects piercing foot/hand)
 - Compression (roll- over or pinching objects)
 - Chemical exposure (inhalation, ingestion, skin contact, eye contact or injection)
 - Temperature extremes (heat/cold)
 - Dust/flying debris (grinding, chipping, sanding, etc.)
 - Radiation (non- ionizing: UV/IR/light, welding, brazing, cutting, furnaces, etc.)
 - Noise (mechanical rooms, machines, jackhammers, etc.)
 - Electrical (shock, short circuit, arcing, static)
- Select PPE that ensures a greater level of protection than the minimum required to protect workers from the hazards.
- Fit the worker with the PPE and give instructions on its use and care. It is very important that workers be made aware of all warning labels and limitations of their PPE.

Based on the hazard assessment for _____ (Job Classification), the following PPE is required:

Head Hazard	Job	PPE

Eye and Face Hazard	Job	PPE

Respiratory Hazard	Job	PPE

Hearing Hazard	Job	PPE

Hand/Arm Hazard	Job	PPE

Foot/Leg Hazard	Job	PPE

Other Hazard	Job	PPE

Appendix B

Personal Protective Equipment General Guidelines for Selection and Use

Head Protection/Hard Hats

1. Hard hats must be used in areas where a reasonable risk exists for injury to the head.
2. Hard hats must comply with ANZI Z89.1-1986.
3. Hard hats should not be worn over a hat or cap. Special hard hat liners are available if necessary for protection from cold weather.
4. Hard hats should be inspected regularly. Replace the hard hat if it has a crack or hole, or if it has sustained a heavy blow. Do not drill or cut hard hats.
5. Non-conductive hard hats (class B or C) are required for protection from electrical hazards.

Eye and Face Protection

1. Eye and face protection must be worn in areas where a reasonable or obvious risk exists for chemical splashes, flying objects or physical hazards that could result in an eye or face injury.
2. PPE for eye and face protection must comply with ANSI Z87.1-1989.
3. For flying particles, safety glasses with side shields or goggles may be specified for protection. Face shields over goggles may be required to protect against a high volume of flying objects.
4. When working in a lab where chemicals are being used, chemical splash goggles must be worn.
5. Side shields cannot be removed from safety glasses.
6. Normal prescription glasses do not provide adequate protection from injury to the eye and do not meet ANSI eye protection specifications. Safety glasses must be worn over regular prescription glasses, or prescription safety glasses may be obtained, but they must have side shields.
7. Inspect eye and face protection frequently for cleanliness, proper fit, and scratches that impair vision. Adjust, replace or have repaired as needed.
8. Contact EH&S if you wear contact lenses and need to use eye or face protection.

Hand Protection

1. Hand protection must be worn when necessary to protect against chemical exposure and physical hazards such as thermal (hot or cold) burns, abrasions, cuts, slivers, etc.
2. Select the right type of glove for the job and conditions. Appendix B of the *Chemical Hygiene Plan for Laboratories* contains a chemical compatibility guide for gloves. In general:
 - Leather is a good choice for protection against rough surfaces, sparks, chips and moderate heat.
 - Cloth protects in general shop conditions from dirt, chafing, abrasions, wood slivers and low heat.
 - Rubber and nitrile protect against some acids, some chemical burns and electrical shock.
 - Plastic protects against some chemicals and corrosives. Refer to Appendix B of the *Chemical Hygiene Plan for Laboratories* before choosing gloves for chemical use.
3. Make sure gloves fit properly.
4. Inspect gloves often for cracks, holes, tears, good flexibility, and grip.

Torso Protection

1. The purpose of protective apparel is to provide protection for the body from injury from sharp objects, chemical exposure, and temperature extremes.
2. Lab coats, chemical resistant aprons, and disposable Tyvek suites are examples of protective apparel.
3. Proper selection should be based on intended use. Contact EH&S for assistance.

Foot Protection

1. Safety shoes or boots are required to protect against heavy objects, chemical splashes and spills, and punctures and should be worn when these dangers exist.
2. Safety shoes and boots must meet the ANSI Z41-1991 standard, which provides for both impact and compression protection.

Hearing Protection

1. OSHA requires that all employees exposed to a time-weighted noise level of 85 decibels (dBA) or greater be included in a hearing conservation program. No areas or tasks on the Montana Tech campus have been identified as exceeding this limit. However, hearing protection is still highly recommended in noisy areas or when performing tasks with noisy equipment or machinery.
2. Either earplugs or earmuffs are selected for protection against hearing damage or loss. Contact EH&S for specific recommendations.

Respiratory Protection

1. Montana Tech has a Respiratory Protection Program. The requirements of the program include medical evaluation, fit testing of the respirator, and training in all aspects of respirator use.
2. Employees who wear respirators must be included in this program. Contact EH&S for information.

Appendix C

PPE Required by Job Classification

Stationery Engineer (Boilermen)	
Working with chemicals	Appropriate gloves, splash goggles, proper ventilation
Mixing chemicals	Appropriate gloves, splash goggles or safety glasses/face shield together, proper ventilation
Welding	Appropriate welding hoods or goggles, gloves, and hearing protection
Grinding	Safety glasses and face shield, and hearing protection
Working with steam, hot surfaces	Safety glasses or face shield with safety glasses, gloves
Using power tools including jackhammer	Safety glasses, gloves, hearing protection, and foot protection. Respirator required if jackhammering cement.
Any task where foot hazards are present (chemical exposure, compression, impact)	Foot protection
Any head hazard where serious injury could occur	Hard hat
Maintenance/Engineer	
Changing filters on ventilation systems	Full-face respirator with P100 (HEPA) filters, tyvek suit, gloves
Welding	Appropriate welding hoods or goggles, gloves, and hearing protection, proper ventilation
Electrical work	Appropriate gloves, safety glasses
Working with steam	Appropriate gloves, safety glasses
Unloading trucks	Foot protection, leather gloves
Cutting, grinding	Safety glasses & face shield, hearing protection
Using power tools including jackhammer	Safety glasses, gloves, hearing protection, and foot protection. Respirator required if jackhammering cement.
Grounds Personnel	
Chipping ice	Safety glasses, gloves, and foot protection
Moving furniture, barrels, etc.	Leather gloves, foot protection
Using jackhammer	Foot protection, hearing protection, safety glasses. Respirator required if jackhammering cement.
Using weed-eater and lawn mower	Safety glasses, hearing protection
Mixing chemicals	Splash goggles or safety glasses and face shield, ventilation, appropriate gloves

Painters	
Working below where others are working	Hard hat
Mixing chemicals	Splash goggles or safety glasses and face shield, appropriate gloves, ventilation
Sanding, scraping	Half-face or full-face respirator with P100 (HEPA) filters if ventilation is not adequate, appropriate gloves
Grinding	Safety glasses and face shield, hearing protection
Using chemicals for cleaning, stripping	Gloves appropriate for chemicals being used, safety glasses, and proper ventilation or half-face respirator with cartridges appropriate for chemicals.
Using power tools	Safety glasses, gloves, hearing protection, and foot protection
Spray painting	Half-face respirator and goggles or full-face respirator with appropriate cartridge, appropriate gloves
Carpenters	
Sanding, cutting, grinding	Safety glasses, hearing protection, foot protection, respiratory protection where ventilation is not adequate
Carrying wood, cement forms, building materials	Foot protection, appropriate gloves
Cleaning tools with chemicals	Safety glasses, appropriate gloves, ventilation
Using power tools including jackhammer	Safety glasses, gloves, hearing protection, and foot protection. Respirator required if jackhammering cement.
Custodians	
Cleaning bathrooms, handling trash	Appropriate gloves
Mixing chemicals, transferring chemicals into other containers	Appropriate gloves, safety glasses, proper ventilation if required
Laboratory Workers	
Handling/mixing chemicals	Appropriate gloves, splash goggles, face shield if necessary, lab coat to protect clothing, proper ventilation
Working with compressed gases	Safety glasses or goggles
Working with extremely hot or cold items	Proper gloves, safety glasses or goggles
Working with loud equipment, grinding rocks	Hearing protection, safety glasses or goggles