

Northland Community & Technical College

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Personal Protective Equipment

Safety Officer – Cory Feller

Chemical Hygiene Officer – Kristel Kizer

Telephone: 218-683-8633

Personal Protective Equipment Program

1. **Introduction**
2. **Responsibilities**
 1. Supervisors
 2. Employees
 3. The College
3. **Program Components**
 1. Hazard Assessment and Equipment Selection
 2. Protective Devices
 1. Eye and Face Protection
 2. Head Protection
 3. Foot Protection
 4. Hand Protection
 3. Selection and Use of PPE in Laboratories
 4. Cleaning and Maintenance
 5. Training
 6. Recordkeeping

References

Personal Protective Equipment Program

1.0 Introduction

The objective of the **Personal Protective Equipment (PPE) Program** is to protect employees from the risk of injury by creating a barrier against workplace hazards. Personal protective equipment is not a substitute for good engineering or administrative controls or good work practices, but should be used in conjunction with these controls to ensure the safety and health of employees. Personal protective equipment will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injury and/or illness. This program addresses eye, face, head, foot, and hand protection. Separate programs exist for respiratory and hearing protection since the need for participation in these programs is established through industrial hygiene monitoring.

- The College Personal Protective Equipment Program includes:
- Responsibilities of supervisors, employees
- Hazard assessment and PPE selection
- Employee training
- Recordkeeping requirements

2.0 Responsibilities

■ 2.1 Department Supervisors

- Supervisors have the primary responsibility for implementation of the PPE Program in their work area. This involves:
- Providing appropriate PPE and making it available to employees.
- Ensuring employees are trained on the proper use, care, and cleaning of PPE.
- Maintaining records on PPE assignments and training.
- Supervising employees to ensure that the PPE Program elements are followed and that employees properly use and care for PPE.
- Notifying the Safety Officer when new hazards are introduced or when processes are added or changed.
- Ensuring defective or damaged equipment is immediately replaced.

■ 2.2 Employees

- The PPE user is responsible for following the requirements of the PPE Program. This involves:
- Wearing PPE as required.
- Attending required training sessions.
- Caring for, cleaning, and maintaining PPE as required.
- Informing the supervisor of the need to repair or replace PPE.

■ 2.3

The College is responsible for the development, implementation, and administration of the PPE Program. This involves:

- Conducting workplace hazard assessments to determine the presence of hazards which necessitate the use of PPE.
- Conducting periodic workplace reassessments as requested by supervisors and/or as determined by the College and Maintaining records on hazard assessments.
- Providing training and technical assistance to supervisors on the proper use, care, and cleaning of approved PPE.
- Providing guidance to the supervisor for the selection and purchase of approved PPE.
- Periodically reevaluating the suitability of previously selected PPE.
- Reviewing, updating, and evaluating the overall effectiveness of the PPE Program.

3.0 Program Components

■ 3.1 Hazard Assessment and Equipment Selection

OSHA requires employers to conduct inspections of all workplaces to determine the need for personal protective equipment (PPE) and to help in selecting the proper PPE for each tasks performed. The College, in conjunction with Supervisors, will conduct a walk-through survey of each work area to identify sources of hazards, including impact, penetration, compression, chemical, heat, dust, electrical sources, material handling, and light radiation.

Once the hazards of a workplace have been identified, the new or additional equipment which ensures a level of protection greater than the minimum required to protect the employees from the hazards. Care will 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 will be provided or recommended for purchase.

■ 3.2 Protective Devices

All personal protective clothing and equipment will be of safe design and construction for the work to be performed and shall be maintained in a sanitary and reliable condition. Only those items of protective clothing and equipment that meet NIOSH or ANSI (American National Standards Institute) standards will be procured or accepted for use. Newly purchased PPE must conform to the updated ANSI standards which have been incorporated into the OSHA PPE regulations, as follows:

- a. Eye and Face Protection ANSI Z87.1-1989
- b. Head Protection ANSI Z89.1-1986
- c. Foot Protection ANSI Z41.1-1991
- d. Hand Protection. There are no ANSI standards for gloves, however, selection must be based on the performance characteristics of the glove in relation to the tasks to be performed.

Careful consideration will be given to comfort and fit of PPE in order to ensure that it will be used. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected. Newly purchased PPE (Jan 1, 2010) must be made in the U.S.A. according to Minnesota State Law.

■ 3.2.1 Eye and Face Protection

Prevention of eye injuries requires that all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, researchers, contractors, or others passing through an identified eye hazard area. To provide protection for these personnel, Supervisors of such areas shall procure a sufficient quantity of goggles and/or plastic eye protectors, which afford the maximum amount of protection possible. If these personnel wear personal glasses, they shall be provided with a suitable eye protector to wear over them.

Suitable protectors shall be used when employees are exposed to hazards from flying particles, molten metal, acids or caustic liquids, chemical liquids, gases, or vapors, bioaerosols, or potentially injurious light radiation.

- Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment.
- Side protectors shall be used when there is a hazard from flying objects.
- Goggles and face shields shall be used when there is a hazard from chemical splash.
- Face shields shall only be worn over primary eye protection (safety glasses or goggles).
- For employees who wear prescription lenses, eye protectors shall either incorporate the prescription in the design or fit properly over the prescription lenses.
- Protectors shall be marked to identify the manufacturer.
- Equipment fitted with appropriate filter lenses shall be used to protect against light radiation. Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.

Prescription Safety Eyewear

OSHA regulations require that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription lenses (goggles, face shields) without disturbing the proper position of the prescription lenses or the protective lenses. Personnel requiring

prescription safety glasses may contact the Program Administrator about having their request for prescription safety glasses processed.

Emergency Eyewash Facilities

Emergency eyewash facilities meeting the requirements of ANSI Z358.1 will be provided in all areas where the eyes of any employee may be exposed to corrosive materials. All such emergency facilities will be located where they are easily accessible in an emergency.

■ **3.2.2 Head Protection**

Head protection will be furnished to, and used by, all employees engaged in construction and other miscellaneous work. Head protection is also required to be worn by engineers, inspectors, and visitors at construction sites when hazards from falling or fixed objects, or electrical shock are present. Bump caps/skull guards will be issued and worn for protection against scalp lacerations from contact with sharp objects. However, they will not be worn as substitutes for safety caps/hats because they do not afford protection from high impact forces or penetration by falling objects.

■ **3.2.3 Foot Protection**

Safety shoes shall be worn in areas as determined by the College. All safety footwear shall comply with ANSI Z41-1991, "American National Standard for Personal Protection - Protective Footwear."

Safety shoes or boots with impact protection are required to be worn in work areas where 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 are required for work activities involving skid trucks (manual materials handling cars) or other activities in which materials or equipment could potentially roll over an employee's feet. Safety shoes or boots with puncture protection are 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.

■ **3.2.4 Hand Protection**

Suitable gloves shall be worn when hazards from chemicals, cuts, lacerations, abrasions, punctures, burns, biological, and harmful temperature extremes are present. Glove selection shall be based on performance characteristics of the gloves, conditions, durations of use, and hazards present. One type of glove will not work in all situations. The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and SDS's before working with any chemical. Recommended glove types are often listed in the section for personal protective equipment.

Chemicals eventually permeate all glove materials. However, they can be used safely for limited time periods if specific use and other characteristics (i.e., thickness and permeation rate and time) are known.

3.3 Selection and Use of PPE in Laboratories

PPE may be required to reduce the risk of exposure of an employee by contact, inhalation or ingestion of an infectious agent, toxic substance, or radioactive material.

■ 3.3.1 Laboratory Coats and Gowns

The lab coat can be used to protect street clothing against biological or chemical spills as well as to provide some additional body protection. The specific hazard(s) and the degree of protection required must be known before selecting coats for lab personnel.

■ 3.3.2 Foot Protection

Safety shoes should be worn in any area where there is a significant risk of dropping heavy objects on the foot. For general biological lab use, comfortable shoes such as tennis shoes or nurses shoes are used extensively. Sandals and other types of open-toed shoes are not permitted in labs using biohazards or chemicals, due to the potential exposure to infectious agents or toxic materials as well as physical injuries associated with the work.

■ 3.3.3 Face Shields and Eye Protection

Face shield and goggles should be worn whenever procedures with a high potential for creating aerosols are conducted.

■ 3.3.4 Gloves

Gloves are worn when handling and skin contact with chemicals is unavoidable.

■ 3.4 Cleaning and Maintenance

It is important that all PPE be kept 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 so that the PPE provides the requisite protection. Personal protective equipment shall not be shared between employees until it has been properly cleaned and sanitized. PPE will be distributed for individual use whenever possible.

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

■ 3.5 Training

Any worker required to wear PPE shall receive training in the proper use and care of PPE online.

- When PPE is necessary to be worn.
- What PPE is necessary
- How to properly don, doff, adjust, and wear PPE.
- The limitations of the PPE.
- The proper care, maintenance, useful life and disposal of the PPE.

■ 3.6 Recordkeeping

Written records shall be kept of the names of persons trained, the type of training provided, and the dates when training occurred. The Safety Officer shall maintain their employees' training records for at least 3 years. Hazard Assessments shall be maintained for each work site evaluated for at least 3 years.

REFERENCES

American National Standards Institute, American National Standard ANSI Z41-1991, "Personnel Protection - Protective Footwear".

American National Standards Institute, American National Standard ANSI Z87.1-1989, "Practice for Occupational and Educational Eye and Face Protection".

American National Standards Institute, American National Standard ANSI Z89.1-1986, "Safety Requirements for Industrial Head Protection".

OSHA Standard 29 CFR 1910.132, "General Requirements"

OSHA Standard 29 CFR 1910.133, "Eye and Face Protection"

OSHA Standard 29 CFR 1910.135, "Head Protection"

OSHA Standard 29 CFR 1910.136, "Occupational Foot Protection"

OSHA Standard 29 CFR 1910.138, "Hand Protection"

EMPLOYEE PPE HAZARD ASSESSMENT

Job Title:	Assessor:
Facility	Date of Assessment:
Area:	Special Hazard(s):
Section 1 Hazards (Check all potential hazards)	Section 2 Check all recommended PPE for hazards identified in Section 1.
Eye / Head Hazards	
<input type="checkbox"/> Impact From Flying Debris <input type="checkbox"/> Chemical Splash / Contact <input type="checkbox"/> Heat / Sparks / Hot or Cryogenic Liquid Splash <input type="checkbox"/> Intense Light / Optical Radiation <input type="checkbox"/> Blood / Body Fluid Splash <input type="checkbox"/> Impact w/Falling / Stationary Overhead Objects	<input type="checkbox"/> Safety Glasses w/Side Shields, Safety Goggles <input type="checkbox"/> Chemical Goggles, Indirect Vent <input type="checkbox"/> Face Shield <input type="checkbox"/> UV Shaded Goggles / Face Shield <input type="checkbox"/> Special Protective Eyewear (i.e. lasers) <input type="checkbox"/> Hard Hats / Bump Caps
Section 1 Hazards (Check all potential hazards)	Section 2 Check all recommended PPE for hazards identified in Section 1.
Body / Torso Hazards	
<input type="checkbox"/> Chemical Splash / Contact <input type="checkbox"/> Heat /Sparks/Hot Liquid Splash/Molten Metal <input type="checkbox"/> Blood / Body Fluid Splash <input type="checkbox"/> Cut / Laceration / Puncture <input type="checkbox"/> Other: _____	<input type="checkbox"/> Chemical Resistant Apron <input type="checkbox"/> Flammable Resistant Clothing / Leathers <input type="checkbox"/> Splash Protection - Aprons / Gauntlets <input type="checkbox"/> Cut Proof Vest (i.e. Kevlar) <input type="checkbox"/> Other: _____
Section 1 Hazards (Check all potential hazards)	Section 2 Check all recommended PPE for hazards identified in Section 1.
Foot / Leg Hazards	
<input type="checkbox"/> Chemical Contact <input type="checkbox"/> Compression/Impact w/Heavy Objects / Equip. <input type="checkbox"/> Piercing / Puncture of Sole <input type="checkbox"/> Slip / Trip / Fall <input type="checkbox"/> Cut / Laceration <input type="checkbox"/> Hot Liquids Materials / Molten Metal <input type="checkbox"/> Cold and/or Wet Environments <input type="checkbox"/> Other: _____	<input type="checkbox"/> Chemical Resistant Footwear <input type="checkbox"/> Steel Toe Boots <input type="checkbox"/> Steel Shank Boots <input type="checkbox"/> Anti-Skid Footwear <input type="checkbox"/> Cut Proof Chaps and/or Boots (i.e. Kevlar) <input type="checkbox"/> Welding/Torching Leather Boots or Spat <input type="checkbox"/> Insulated and/or Water Resistant Boots <input type="checkbox"/> Other: _____
Section 1 Hazards (Check all potential hazards)	Section 2 Check all recommended PPE for hazards identified in Section 1.
Hand / Arm Hazards	
<input type="checkbox"/> Impact / Abrasion / Pinch <input type="checkbox"/> Burns - Extreme Temperatures (Hot & Cold) <input type="checkbox"/> Cut / Laceration / Puncture / Penetration <input type="checkbox"/> Chemical Contact <input type="checkbox"/> Blood/Body Fluid Contact <input type="checkbox"/> Electricity <input type="checkbox"/> Other: _____	<input type="checkbox"/> Insulated / Hot Gloves <input type="checkbox"/> Leather Gloves <input type="checkbox"/> Insulated or Cryogenic Gloves / Gauntlets <input type="checkbox"/> Cut Proof Gloves <input type="checkbox"/> Chemical Resistant Gloves <input type="checkbox"/> Latex Gloves <input type="checkbox"/> Electrical Insulated Gloves
Section 1 Hazards (Check all potential hazards)	Section 2 Check all recommended PPE for hazards identified in Section 1.
Respiratory Hazards	
<input type="checkbox"/> Dusts <input type="checkbox"/> Asphyxia <input type="checkbox"/> Fumes <input type="checkbox"/> Particulate <input type="checkbox"/> Mists <input type="checkbox"/> Gas <input type="checkbox"/> Vapors	<input type="checkbox"/> Fume Hood/Spray Booth/Local Exhaust System <input type="checkbox"/> Respirator (check the appropriate boxes below) <input type="checkbox"/> Half Face <input type="checkbox"/> Air Purifying (cartridge style) <input type="checkbox"/> Full Face <input type="checkbox"/> Supplied Air Cartridge Type (List)
Section 1 Hazards (Check all potential hazards)	Section 2 Check all recommended PPE for hazards identified in Section 1.
Hearing / Ear Hazards	
<input type="checkbox"/> Loud / Explosive Noise Generation	<input type="checkbox"/> Ear Muffs or Ear Plugs/Inserts