



University of New Haven

POLICIES AND PROCEDURES

Policy Title:

Personal Protective
Equipment Policy

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Responsible Office: Department of Public Safety

Responsible Official: Associate VP of Public Safety & Administrative Services

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1.0 Purpose

The Personal Protective Equipment program has been developed to provide University of New Haven (University) employees with the necessary information to identify workplace hazards that require the use of personal protective equipment (PPE), and the proper selection and use of PPE. A secondary purpose is to comply with the Occupational Safety and Health Administration (OSHA 29 CFR 1910.132) standard. It states: Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices and protective shields and barriers, shall be provided, used and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

OSHA requires the use of PPE to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective in reducing these exposures to acceptable levels. OSHA also requires that a hazard assessment of the workplace be performed to determine the need for PPE. The Associate Vice President of Public Safety will work with the help of a third-party contractor to complete hazard assessments of the workplace.

2.0 Roles and Responsibilities

2.1 Associate Vice President of Public Safety

- Provide administrative support for this program.
- Ensure the PPE program is implemented and maintained at the University which includes performing periodic audits to assure compliance with University policies and procedures.
- Assist managers/supervisors in implementing an effective PPE program in their workplace.
- Review and revise the PPE program, as needed for compliance with applicable regulations.

2.2 Associate Vice President of Facilities

- Assure that PPE identified in hazard assessments is available for the use of staff.
- Ensure that facility staff members, including management, are properly trained in the correct selection, use and upkeep of PPE.

2.3 Director of Facilities

- Ensure that employees are aware of and understand the limitations, precautions, use and

maintenance of PPE and strictly enforce the use of PPE.

- Must make PPE readily available to employees who need it and provide training.
- Provide/Coordinate training for PPE instruction, as needed.
- Assure with the help of a third-party contractor that a hazard assessment of the potential hazards of their employee's work activities and work areas has been completed. Where engineering and/or administrative controls cannot be used to adequately control the hazard, proper PPE must be identified and selected.

2.4 Custodial Manager

- Ensure that employees are aware of and understand the limitations, precautions, use and maintenance of PPE and strictly enforce the use of PPE.
- Must make PPE readily available to employees who need it and provide training.
- Provide/coordinate training for PPE instruction, as needed.
- Work with the Director of Facilities to conduct hazard assessments when a new job title and/or process is developed.

2.5 Manager of Facilities Operations

- Ensure that employees are aware of and understand the limitations, precautions, use and maintenance of PPE and strictly enforce the use of PPE.
- Notify the Associate Director of Facilities when new job tasks arise so that a hazard assessment may be performed.
- Assist in ensuring employees are wearing PPE as required.
- Ensure that PPE fits appropriately.
- Prevent the use of PPE if it is not in good working order.
- Never assign a task if the appropriate PPE is not available.

2.6 Custodial Service Supervisor

- Ensure that employees are aware of and understand the limitations, precautions, use and maintenance of PPE and strictly enforce the use of PPE.
- Notify the Director of Facilities when new job tasks arise so that a hazard assessment may be performed.
- Assist in ensuring employees are wearing PPE as required.
- Ensure that PPE fits appropriately.
- Prevent the use of PPE if it is not in good working order.

- Never assign a task if the appropriate PPE is not available.

2.7 Employees

- Comply with this program and safety recommendations provided by managers/supervisors.
- Conduct assigned tasks in a safe manner and wear all assigned PPE.
- Before using any PPE, each employee must be properly trained to understand the proper selection, use, limitations and precautions to be used with PPE.
- Understand the hazards associated with each job and ensure that the proper controls and PPE are in place prior to starting work.
- Report any unsafe or unhealthy work conditions and job-related injuries or illnesses to the manager/supervisor immediately.
- Know the limitations of the PPE that is being worn.

3.0 Hazard Assessment

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering, work practice and administrative controls. When engineering, work practice and administrative controls are not feasible or do not provide sufficient protection, the University must provide PPE to their employees and ensure its use.

A hazard assessment must be conducted to identify physical and health hazards in the workplace. The Director of Facilities, with the assistance of a third-party contractor, will perform the hazard assessments. The purpose of the assessment is to identify activities, tasks or equipment that create physical and health hazards that can be minimized by the use of appropriate PPE. When conducting a hazard assessment, a task is investigated, and the hazards and the potential hazards associated with the task are determined. See Appendix A for hazard assessment procedures and Appendix B for a personal protection selection chart.

A hazard assessment of the following positions has been completed at the University:

- Custodial Services Laborer
- Custodian
- Electrician
- Heating, Ventilation and Air Conditioning (HVAC) technician
- Maintenance Mechanic
- Painter

4.0 PPE Selection

Once the hazards of the workplace have been identified, the Director of Facilities (with assistance from EH&S or a third-party consultant where necessary) must determine the appropriate PPE to provide protection against the hazards identified during the assessment. The general procedure for the selection of PPE is to:

- Become familiar with the potential hazards and the type of PPE that is available;
- Compare the hazards associated with the environment; i.e., impact velocities, masses, projectile shape with the capabilities of the available protective equipment;
- Select the PPE which ensures a level of protection greater than the minimum required to protect employees from the hazards; and
- Fit the user with the PPE and give instructions on the care and use of the PPE. Ensure that end users are made aware of all warning labels for and limitations of their PPE.

The fit and comfort of PPE should be taken into consideration when selecting appropriate items for the workplace. PPE that fits well and is comfortable to wear will encourage employee use of PPE. If PPE does not fit properly, it can make the difference between being safely covered or dangerously exposed. It may not provide the level of protection desired and may discourage employee use.

OSHA requires that many categories of PPE meet or be equivalent to standards developed by the American National Standards Institute (ANSI). Any new equipment procured must meet the cited ANSI standard. Existing PPE stocks must meet the ANSI standard in effect at the time of its manufacture or provide protection equivalent to PPE manufactured to the ANSI criteria. For employees who provide their own PPE, the University must ensure that any employee-owned PPE used in the workplace conforms to University criteria, based on the hazard assessment, OSHA requirements and ANSI standards. OSHA requires PPE to meet the following ANSI standards:

- Eye and Face Protection: ANSI Z87.1-1989 (USA Standard for Occupational and Educational Eye and Face Protection); OSHA accepts ANSI Z87.1-1989 (R-1998), ANSI Z87.1-2003, ANSI Z87.1-2010, and ANSI Z87.1-2015.
- Head Protection: ANSI Z89.1-2009.
- Foot Protection: ASTM F2412-2005, ASTM F2413-2005, ANSI Z41-1999, or ANSI Z41-1991.

For hand protection, there is no ANSI standard for gloves, but OSHA recommends that selection be based upon the tasks to be performed and the performance and construction characteristics of the glove material.

Additional information to assist with selecting the appropriate PPE may also be obtained from:

- the manufacturers of PPE;
- SDS's for chemicals; and/or
- product descriptions.

4.1 Eye and Face Protection

Employees must use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids and chemical gases or vapors. Employees must use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) are acceptable. For employees who wear prescription lenses while engaged in operations that involve eye hazards, eye protection must be worn to incorporate the prescription in its design, or wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

Specific examples at the University where eye protection would be necessary could be but are not limited to the following – while working within laboratories, while handling laboratory chemicals, while handling certain corrosive cleaning chemicals and/or while using hand and power tools throughout the campus.

4.2 Fall Protection

In general, employees must be protected from falls of 6 feet or more. This can be accomplished by a variety of methods. Engineering controls are preferred, such as approved railing systems. Where engineering controls are not possible, an OSHA-approved full-body harness system that is properly secured may be needed.

Specific examples at the University where fall protection would be necessary could be but are not limited to the following – working near any roof edge, while using the Genie lift in the Charger Gymnasium to replace light bulbs and/or while working on scaffolding.

The University does not currently own a bucket truck and all work that would require the use of a bucket truck is completed by a third-party contractor at the direction of the Director of Facilities.

4.3 Foot Protection

Foot protection is required to be worn when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such an employee's feet are exposed to electrical hazards. Foot protection must comply with ASTM requirements and provide both impact and compression protection. Safety shoes or boots with impact protection are 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 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.

At the University, Facilities Department staff are provided with a footwear stipend to purchase required footwear. All staff that work in the field as custodial services laborer, electricians, HVAC technicians and maintenance mechanics are required to wear foot protection in the form of work boots.

4.4 Hand Protection

Appropriate hand protection is required when affected employees' hands are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns and harmful temperature extremes. The selection of the appropriate hand protection is based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use and the hazards and potential hazards identified. 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. Before purchasing gloves, 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 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:

- The toxic properties of the chemical(s) must be determined; the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects;

- Generally, any "chemical resistant" glove can be used for dry powders;
- 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,
- Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

4.5 Head Protection

All head protection (helmets) is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection also provides protection from electric shock and burn. When selecting head protection, knowledge of potential electrical hazards is important. Class G helmets, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts). Class E 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. Employees are required to wear a protective helmet when working in areas where there is a potential for injury to the head from falling objects or the potential that the head could be bumped during a task.

Work within mechanical spaces and construction spaces may require the use of head protection. University staff should evaluate the surroundings to make the determination if an object could fall on their head or if there is the potential that their head could be bumped during a specific task.

4.6 Hearing Protection

When information indicates that any employee exposure may equal or exceed an 8-hour time weighted average of 85 decibels (dB), the University would be required to develop and implement a monitoring program. Employees who are exposed to noise in excess of 85 dB are required to wear approved hearing protection in the form of earmuffs or earplugs. Most cutting and grinding operations, for example, require the use of hearing protection. Feasible and effective engineering controls are preferred, e.g., enclosures/wrappings, absorbing materials, vibration isolation and structural dampening.

Specific examples at the University where hearing protection would be necessary could be but are not limited to work in mechanical rooms for long periods of time where machinery is running constantly, during generator testing and when working with machinery within the building and grounds

woodworking shop.

Most landscaping duties including lawn mowing and large-scale snow removal at the University is completed by a third-party contractor. Therefore, they do not fall under this policy, yet appropriate personal protective equipment should be worn as mandated by their employer.

4.7 Protective Clothing

The minimum requirements for body protection when working in an area with potential for exposure to chemical splashes, flying particles and dusts, hazardous plants, etc. includes full length pants and/or a protective coat (lab coat). Clothing made of cotton, wool or flannel is best suited for construction work, especially electricians. Avoid wearing synthetic fabrics such as nylon and rayon as these materials burn readily and can melt causing severe burns. Welders should take extra precautions to protect against hot slag, molten metal and sparks by wearing Kevlar, leathers, gauntlets and other special clothing.

4.8 Respiratory Protection

The University is working with building and grounds employees to have the medical evaluation form completed. Once employees are cleared to wear a respirator by a licensed health care professional the fit testing process will begin. Refer to the Respiratory Protection Program Policy for further information on fit testing and the requirements of respiratory protection devices.

5.0 Cleaning, Inspection, Maintenance, and Storage

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 PPE provides adequate protection to the wearer. PPE should also be inspected before and after use. It is also important to ensure that contaminated PPE, which cannot be decontaminated, is disposed of in a manner that protects employees from exposure to hazards.

PPE should be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. PPE should not be stored in a location where it is exposed to airborne contaminants, direct sunlight, or temperature extremes.

6.0 Training

Prior to conducting work requiring the use of personal protective equipment, managers/supervisors

must ensure their employees have been trained to know:

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

Upon completion of the training, employees must be able to demonstrate the above-mentioned information before they can perform work requiring the use of the PPE. Any type of approved training format can be used. The manager/supervisor must maintain documentation of the training that must include the employee's name, date of the training, and a clear summary of the training provided (evidence of certification). The Environmental Health and Safety office will conduct this training and be available for consultation.

6.1 Retraining

If the manager/supervisor believes that a previously trained employee is not demonstrating the proper understanding and skill level in the use of PPE, that employee should receive retraining. Other situations that require additional or retraining of employees include the following:

- changes in the workplace that render previous training obsolete
- changes in the type of required PPE that make prior training obsolete
- inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

7.0 Payment for PPE

Protective equipment, including personal protective equipment (PPE), will be provided by the University at no cost to employees. The University is not required to pay for non-specialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and non-specialty prescription safety eyewear, provided that the University permits such items to be worn off the jobsite.

The University is not required to pay for:

- Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots (the University does supply uniforms to Facilities Department staff); or
- Ordinary clothing, skin creams, or other items, used solely for protection from weather, such as

winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.

The University must pay for replacement PPE, except when the employee has lost or intentionally damaged the PPE.

Where an employee provides adequate protective equipment he or she owns, the University may allow the employee to use it and is not required to reimburse the employee for that equipment.

Appendix A: Hazard Assessment Procedures

In order to assess the need for PPE the following steps should be taken (A, B, and C):

A. The hazard assessment should begin with a walk-through survey of the facility to develop a list of potential hazards in the following basic hazard categories:

- (a) Impact
- (b) Penetration
- (c) Compression (roll-over)
- (d) Chemical
- (e) Heat/Cold
- (f) Harmful dust
- (g) Light (optical) radiation and
- (h) Biological

B. During the walk-through survey the following should also be observed:

- (a) Sources of motion; i.e., machinery or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects;
- (b) Sources of high temperatures that could result in burns, eye injury or ignition of protective equipment; sources of low temperatures that could result in burns, frostbite, etc.
- (c) Types of chemical exposures;
- (d) Sources of harmful dust;
- (e) Sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights;
- (f) Sources of falling objects or potential for dropping objects;
- (g) Sources of sharp objects which might pierce the feet or cut the hands;
- (h) Sources of rolling or pinching objects which could crush the feet;
- (i) Layout of workplace and location of co-workers;
- (j) Any electrical hazards; and
- (k) Biological hazards such as blood or other potentially infected material.

In addition, injury/accident data should be reviewed to help identify problem areas.

C. When the walk-through survey is complete, organize and analyze the data so that it may be efficiently used in determining the proper types of PPE required at the worksite. Select PPE that will provide a level of protection greater than the minimum required to protect employees from hazards. The workplace should be periodically reassessed for any changes in conditions, equipment or operating procedures that could affect occupational hazards. This periodic reassessment should also include a review of injury and illness records to spot any trends or areas of concern and taking appropriate corrective action. The suitability of existing PPE, including an evaluation of its condition and age, should be included in the reassessment. Documentation of the hazard assessment is required through a written certification that includes the following information:

- Identification of the workplace evaluated;
- Name of the person conducting the assessment;
- Date of the assessment; and
- Identification of the document certifying completion of the hazard assessment.

Appendix B: Personal Protection Selection Chart

Eye and Face Protection:

Type of Work / Source	Hazard	Minimum Requirements / PPE
IMPACT-chipping, drilling, riveting, hammering, sanding, woodworking, grinding	Flying particles, sand, dirt	Direct-vent goggles, safety glasses with side shields, face shield with clear lens worn with goggles or spectacles
HEAT-Furnace operations, casting, hot-dipping, welding	Hot sparks, splashes from molten metals, high temperature exposure	Face shields, goggles, safety glasses with side shields, reflective face shields
COLD- Liquid Nitrogen operations, working outdoors in winter	Burns, low temperatures exposure (frostbite)	Face shield, safety glasses, thick cold-resistant gloves, thick clothing/shoes, layers
CHEMICAL-chemical handling, transfer, degreasing plating, custodial, construction	Splash, irritating mists, vapors, gas, skin burns, absorption toxicity	Goggles, eyecups and cover types, face shield, special purpose goggles
DUST-woodworking, buffing, dusty conditions	Nuisance dust	Goggles, eyecups and cover types
LIGHT/RADIATION-welding, electric arc, welding gas, cutting, torch brazing, torch soldering, glare, lasers	Optical radiation, poor vision, thermal exposure, acoustic, photochemical	Welding helmets or welding shields, spectacles with shaded or special purpose lenses, protective eyewear with an optical density for the specific application

** Face shields should only be worn over primary eye protection

Foot Protection:

Type of Work / Source	Hazard	Minimum Requirements / PPE
IMPACT-carrying or handling materials such as packages, parts, or heavy tools	Falling objects, hard edge objects, weighing 10 pounds or more, at waist level should be considered a hazard	Safety shoes or boots complying with ANSI Z41-1991
COMPRESSION-manual and powered material handling equipment, heavy tools	Rolling or pinching equipment and objects	Safety shoes or boots complying with ANSI Z41-1991

PUNCTURE-construction and demolition activities	Stepping on nails, tacks, screws, large staples, scrap metal or broken glass	Safety shoes or boots with puncture resistant soles
ELECTRICAL- construction and maintenance of electrical equipment/service	Electrical shock and electrocution	Electrical insulating safety shoes
CHEMICAL- chemical handling and transferring, custodial, construction and maintenance operations	Splash, skin burns and absorption toxicity	Impervious rubber boot or bootie covering the shoe. Pant leg or lab coat should pass over top of boot/shoe to prevent chemical from entering

Hand Protection:

Type of Work / Source	Hazard	Minimum Requirements / PPE
SHARP TOOLS/MATERIALS-cutting, dissecting, dicing, butchering, handling sharp or ragged objects	Lacerations from blades, knives, glass, sheet metal, and splinters from rough lumber, severe abrasions.	Leather, wire mesh or stitch gloves, cut-resistant rubber gloves
THERMAL HEAT-cooking, welding, soldering, brazing, foundry work, steam line/furnace repair, autoclaves	Thermal heat, burns	Leather gloves, flame-retardant gauntlet gloves, chemically treated cloth gloves
EXTREME COLD-handling cold materials, cryogenic research	Frostbite	Permeable or impervious non-insulated gloves, permeable or impervious insulated gloves
ELECTRICAL-electrical utility installation and repair	Electrical shock and electrocution	Rubber insulated voltage rated gloves, other gloves rated for electrical work
CHEMICAL-chemical handling and transferring, custodial, construction and maintenance operations	Glove permeation and degradation causing dry skin, dermatitis, burns, irritation or ulceration	Gloves are composed of chemically resistant material. Refer to the MSDS

Head Protection:

Type of Work / Source	Hazard	Minimum Requirements / PPE
IMPACT/PENETRATION-construction, repair, demolition	Overhead hazards, falling objects	Type A, B, C protective helmets
ELECTRICAL-electrical utility and repair	Electrical shock and electrocution	Class A protective helmet (2,200 volts) Class B protective helmet (20,000 volts)
ENTANGLEMENT-rotating machinery	Hair becoming tangled in moving parts	Caps or other protecting hair covering

Hearing Protection:

Type of Work / Source	Hazard	Minimum Requirements / PPE
NOISY EQUIPMENT-High speed tools, heavy mobile equipment and frequent use of mechanized equipment	Noise induced hearing loss	Ear plugs, earmuffs with the appropriate Noise Reduction Rating

Protective Clothing:

Type of Work / Source	Hazard	Minimum Requirements / PPE
Chemical research, working from heights, handling sharp equipment	laceration, burn, abrasion, chemical and fall hazards	Chaps, aprons, lab coats, protective sleeves, knee pads, coveralls, safety vests, welding coats, and personal fall restraint and arrest systems.

Respiratory Protection:

Type of Work / Source	Hazard	Minimum Requirements / PPE
Employees exposed to activities creating dust, mist, fumes and vapors.	Oxygen deficient atmospheres, irritants, carcinogens, sensitizers and other health effects.	Air-purifying respirators (half and full face), supplied air respirators (SCBAs, airline)