

**PERSONAL PROTECTIVE EQUIPMENT REQUIREMENT
FOR
GUSTAVUS ADOLPHUS COLLEGE**

EFFECTIVE July 01, 1999

Under 1910.132, 1910.134, 1910.135 and 1910.138, the Occupational Safety and Health Administration (OSHA) has established standards for Personal Protective Equipment.

OSHA has determined that workers involved in a wide range of occupations are exposed to a significant risk of death or injury from being struck by various objects in the workplace. OSHA's incident data indicates that a significant portion of all work-related injuries and fatalities involve workers being struck in the eyes, head, face, hands, and/or feet by foreign objects. For example, it has been estimated that as many as 2,500 eye injuries occur in the workplace every working day.

Protective equipment including personal protective equipment for eyes, face, head, feet, respiratory devices and protective shields and barriers shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary. Conditions may be reason of hazards of processes or environment, chemical hazards 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. All personal protective equipment must comply with current applicable American Standards Institute requirements.

Employees that provide their own personal protective equipment (PPE) must have prior approval from their immediate supervisor before use. It is the responsible of your immediate supervisor to assure its adequacy, including proper maintenance and sanitation of such equipment.

All PPE shall be of safe design and construction for the work to be performed.

It is the responsibility of your immediate supervisor to insure that you are trained in the proper use and care of PPE. Each employee must demonstrate the following to their supervisor:

1. Understanding of training received including:
 - a. When PPE is necessary
 - b. What PPE is necessary
 - c. How to properly don, doff, adjust, and wear PPE
 - d. The limitations of the PPE
 - e. The proper care, maintenance, useful life, and disposal of the PPE

Each employee will demonstrate the ability to use the PPE properly, before being allowed to perform work requiring the use of PPE.

Retraining is required when changes in the type, workplace conditions, or the types of PPE to be

used render previous training obsolete. Retraining is also required when inadequacies in an employee's knowledge and/or use of assigned PPE indicate that the employee has not retained the understanding or skill required to safely do his or her job duties.

EYE AND FACE PROTECTION

As required under 1910.133(a), employees shall be required to wear proper eye and face protection for all tasks which expose them to flying particles; hot solids; liquid or liquid chemicals; acid or caustic liquids; chemical gases or vapors; molten metal; milling, sawing, turning, shaping, and cutting of any solid materials or electric arc welding; or potentially injurious light radiation.

Employees having work assignments requiring their presence in close proximity to the performance of those tasks having potential exposure to the eye and face injuries shall also be required to wear the appropriate eye and face protection.

Eye and face protection must conform to the American National Standards Institute Standard Z87.1-1968. Practice for Occupational and Educational Eye and Face Protection. All safety glasses shall have both front and side shields.

Visitors entering areas that require the use of safety glasses or face protection must be provided with appropriate eye and face protection.

HEAD PROTECTION

As required under 1910.135, employees are required to wear protective helmets when working in areas where there is a potential for injury to the head from falling or moving objects. Where employees are near exposed energized conductors which your head could contact they must wear helmets designed for protection from electrical hazards. All protective head protection must comply with ANSI Z89.1-1969.

FOOT PROTECTION

As required under 1910.136, employees are required to wear protective footwear when working in areas where there is a danger of foot injuries due to falling and rolling objects, or electrical hazards. All protective footwear must comply with ANSI Z-41.1-1991.

HAND PROTECTION

1910.138 requires employees to select and use appropriate hand protection when 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.

Some types of gloves should be worn by almost all trades and service workers, except those

working near revolving machinery or within six (6) inches of a powered cutting edge such as a saw or drill.

There are different types of gloves for different hand exposures so the selection of gloves for each job is important.

1. Leather gloves are tough and offer good resistance to abrasion and sparks. They are good for general construction work including many material handling tasks.
2. Heat proof gloves should be used for handling hot work and for working near excessive heat producing equipment.
3. Rubber or neoprene gloves protect against acids, oils, solvents and caustic materials. Also they are an excellent barriers to bloodborne pathogens. i.e. HIV and HBV.
4. A special rubber glove with an outer leather cover shall be used when there is a possible exposure to an electric current. They are to be carefully and dielectrically tested and certified every (6) six months.

The care of gloves is also important. Oily and greasy gloves constitute a potential fire hazard. Leaky chemical resistant or dielectric gloves could cause a serious injury. Worn or torn gloves should not be used.

HEARING PROTECTION

Employees who must work with noisy equipment or must perform tasks around noisy machinery i.e. generators shall wear hearing protection.

1. Hearing protection must conform to ANSI Standard S3.19-1974
2. There are different types of hearing protection that can reduce noise levels.
 - a. Foam type: These conform to the shape of the ear canal once they are rolled in fingers and inserted in the ear canal. However they must be discarded after each use.
 - b. Plastic type: These are reusable once they are cleaned and dried properly. This type must be carefully fitted into each ear to significantly reduce noise levels.
 - c. Ear Muffs: Reduce noise levels significantly but cannot be used if a person is wearing thick glass frames. Ear muffs will not cover the ear completely.
3. Headsets used with portable radios, are not considered hearing protection and cannot be worn in noisy environments or with noisy equipment.

RESPIRATORS

As required under 1910.134, respirators are used in situations where engineering controls are not feasible. A written respiratory program is necessary to insure that personnel are medically qualified and the proper respirator is used for the particular task. Training is also an integral part of this program that covers such items as donning and doffing, maintenance and care of the respirator, storage and a fit testing program that will ensure the proper fit of the respirator on each wearer. Respirators used at Gustavus Adolphus College fall into two categories:

1. Negative Pressure Air Purifying Respirator
 - a. Used where concentrations of the contaminants do not exceed the MUC of the full-face or half mask respirator.
 - b. Used in non-IDLH atmospheres.
 - c. Can only be used with substances that have a low odor threshold.
 - d. Used in areas that provide at least a minimum of 19.5% oxygen.
2. Powered Air Purifying Respirator
 - A. On rare occasions when a task produces a large concentration of particulates ie. brick dust if a door is to be cut in a wall, or the concentration of the substance exceeds the MUC of a full-face or half mask respirator, a PAPR should be used as long as it meets the above criteria of the air purifying respirator.

PPE PURCHASING REQUIREMENTS

Gustavus Adolphus College, as an employer, will furnish at no cost to the employee, personal protective equipment required by OSHA. Upon implementation of this plan, all existing and new employees will be issued required PPE equipment as determined by the job classification assessment. Pre-determined prices and vendors have been chosen.

Certain Personal Protective Equipment will be maintained as a stock item by each department. When the PPE is no longer usable, the employee will turn desired PPE over to their immediate supervisor for replacement.

GENERAL PERSONAL PROTECTIVE EQUIPMENT-P.P. HEATING PLANT

Equipment	Guide
1. Eye Protection	
a. Chemical Splash Goggles	Required when mixing water treatment chemicals or other chemicals such as corrosive caustics
b. Safety glasses/side shields or impact resistant goggles	Required in any area that could subject that could subject eye to injury
c. Welders Goggles	Required when welding and arc welding
2. Face Shields	Required in conjunction with safety glasses when using grinder and mixing water treatment chemicals
3. Chemical- Resistant Apron	Required when dispensing water treatment chemicals
4. Respirators	
a. Air purifying/HEPA prefilters	Required when painting in organic vapor and enclosed areas with little or no ventilation using enamels, varnishes, spray paint and solvents.
b. Air purifying/HEPA filter	Required when working around asbestos i.e. insulation on valves
5. Ear Protection	Required when using noisy equipment. i.e. generator, and in areas where noisy equipment is operating
6. Gloves	
a. Chemical Resistance	Required when mixing water treatment chemicals, chemicals that can cause physiological effects on the skin. i.e. drying, irritation or skin absorption
b. Leather	Required when handling anything that can

cause splinters, rough edges and friction burns or blisters

c. Welders Gloves

Required when welding or arc welding

7. Head Protection

Required when working in areas where there is a potential for injury to the head from falling or moving objects and electrical hazards

8. Foot Protection

a. Safety Shoes with non-skid soles

Required in areas where feet could be subject to danger of foot injuries due to falling, rolling objects

GENERAL PERSONAL PROTECTIVE EQUIPMENT
PHYSICAL PLANT ELECTRICIANS

Equipment	Guide
1. Eye Protection	
a. Safety glasses/side shields or impact resistant goggles	Required in any area that could subject eye to injury
2. Face Shields	Required in addition to safety glasses when using grinder
3. Ear Protection	Required when using noisy equipment i.e. generator and in areas where noisy equipment is operating
4. Gloves	
a. Dielectric	Required where electrical circuits are live or activate i.e inside junction boxes, replacing fuses, inspecting transformers
b. Leather	Required when handling anything that can cause splinters, rough edges and friction burns or blisters
5. Head Protection	Required when working in areas where there is a potential for injury to the head from falling or moving objects and electrical hazards
6. Foot Protection	
a. Safety Shoes with non-subject conductive, non-skid soles	Required in areas where you could be to danger of foot injuries due to falling, rolling objects

GENERAL PERSONAL PROTECTIVE EQUIPMENT
PHYSICAL PLANT PLUMBING SHOP

Equipment	Guide
1. Eye Protection	
a. Chemical Splash Goggles	Required in any situation where chemicals could be splashed in eyes
b. Safety glasses/side shields or impact resistant goggles	Required whenever small flying objects could enter eyes, i.e. table saw operations or drills
2. Face Shields	Required in conjunction with safety glasses when using grinder
3. Gloves	
a. Chemical Resistant	Required when using solvents or any chemicals which can cause psychological effects on skin. i.e. drying, irritation skin absorption
b. Leather	Required when handling materials that can cause splinters, rough edges and frictional burns or blisters
4. Ear Protection	Required when using noisy equipment
5. Head Protection (non-conductive)	Required when working around overhead electrical lines in manholes and any area where accidental contact with electrical current is possible
6. Foot Protection	
a. Safety Shoes with non-skid soles	Required in areas where feet could be subject to danger of foot injuries due to falling, rolling objects

**GENERAL PERSONAL PROTECTIVE EQUIPMENT
PHYSICAL PLANT- CARPENTRY SHOP/PAINT SHOP**

Equipment	Guide
1. Eye Protection	
a. Chemical Splash Goggles	Required in any situation where chemicals could be splashed in eyes
b. Safety glasses/side shields or impact resistant goggles.	Required whenever small flying objects could enter eyes. i.e. table saw operations or drills
2. Face Shield	Required in conjunction with safety glasses when using grinder
3. Respirators	
a. Air purifying/organic solvents or no vapor cartridge	Required in enclosed areas with little ventilation when using solvents
b. PAPR/HEPA filter	Required in areas where large amounts of particulates are produced i.e. drilling in brick wall
4. Gloves	
a. Chemical Resistant	Required when using solvents or any chemicals which can cause psychological effects on skin. i.e. drying, irritation skin absorption
b. Leather	Required when handling materials that can cause splinters, rough edges and frictional burns or blisters
5. Ear Protection	Required when using noisy equipment. i.e. stone mason drill
6. Head Protection (non-conductive)	Required when working around overhead electrical lines in manholes and any area where accidental contact with electrical current is possible

7. Foot Protection

a. Safety Shoes with non-skid

Required in area where feet could be subject to danger of foot injuries due to falling, rolling objects or electrical hazards

**GENERAL PERSONAL PROTECTIVE EQUIPMENT
PHYSICAL PLANT - GROUNDS**

Equipment	Guide
1. Eye Protection	
a. Chemical Splash Goggles	Required when handling pesticides, fungicides or herbicides
b. Safety glasses/side shields or impact resistant goggles	Required when using chain saw, weed trimmers, clippers, mowers, edgers, grinder or other small powered equipment
c. Face Shields	Required in conjunction with safety glasses when using grinder
2. Ear Protection	Required when using noisy equipment such as a leaf blower, chain saws, chipper, mowers or leaf vacuum
3. Respirators	
a. Half-mask air purifying	Caution; Care must be utilized to select the correct respirator and cartridge combination for type of job to be performed i.e. mixing pesticides, fungicides, etc.
4. Gloves	
a. Chemical	Required when mixing pesticides, herbicides and fungicides
b. Leather	Required when handling anything that can cause splinters rough edges and friction burns or blisters
5. Foot Protection	
a. Safety Shoes with non-skid soles	Required in areas where feet could be subject to danger of foot injuries due to falling, rolling, or cutting objects

GENERAL PERSONAL PROTECTIVE EQUIPMENT
PHYSICAL PLANT-MOTOR POOL

Equipment	Guide
1. Eye Protection	
a. Chemical Splash Goggles	Required when pouring battery acid into lead acid battery (sulfuric acid) or other hazardous chemicals.
b. Safety glasses/side shields	Required in any area that could subject eye to injury.
c. Face Shields	Required in addition to chemical splash goggles when pouring sulfuric acid into lead acid battery, when using grinder.
2. Gloves	
a. Chemical Resistance	Required when using Safety Kleen, pouring battery acid in lead battery.
b. Leather	Required when handling anything that can cause splinters rough edges and friction burns or blisters
3. Foot Protection	
a. Safety Shoes with non-skid soles	Required in area where feet could be subject to danger of foot injuries due to falling, rolling objects

**GENERAL PERSONAL PROTECTIVE EQUIPMENT
PHYSICAL PLANT - HOUSEKEEPING**

Equipment	Guide
1. Eye Protection	
a. Chemical Splash or Safety Shields I	Required when mixing chemicals, cleaning surfaces where spray or mist from chemical is accomplished
2. Gloves	
a. Chemical Resistant	Required when hands are immersed in cleaning solutions. Cleaning agent is capable of physiological effect on skin. i.e. drying, irritation and skin Required IAW Bloodborne Pathogen Standard. i.e. bloodspills, cleaning bathrooms
b. Leather	Required when handling anything that can cause splinters, rough edges and friction burns or blisters

GENERAL PERSONAL PROTECTIVE EQUIPMENT
PHYSICAL PLANT – SET UP

Equipment	Guide
1. Gloves	
a. Leather	Required when handling anything that can cause splinters rough edges and friction burns or blisters
2. Foot Protection	
a. Safety Shoes with non-skid soles	Required in area where feet could be subject to danger of foot injuries due to falling, rolling objects