



# Personal Protection Equipment

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**LORMAN**<sup>®</sup>

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## **Personal Protection Equipment**

Every year approximately 712,000 workdays are lost, and 4 fatalities occur due to the lack of Personal Protection Equipment usage. Personal Protection Equipment (PPE) is the last line of defense to prevent injuries to employees. Only after all other methods of hazard control have been exhausted, only then should PPE be utilized to prevent worker injury. Hazards have a hierarchy of safety controls, that is, the first steps to be taken to eliminate the hazard should be performed and followed down to the least preferred method.

A quick review of the prevention techniques to consider before PPE is used follows:

### **Eliminate the Hazard:**

The first priority in hazard control techniques is to eliminate the hazard. Elimination of the hazard approaches seek to remove the hazard through changes in the process that creates the hazard. This is the best approach to prevent injuries because you have removed the injury causing hazard totally from the work environment. For example, assume a certain chemical requires the use of respirators to prevent illness. The application of engineering controls is to replace the chemical with a non-hazardous one or increase local or general ventilation to reduce the concentration or isolate the process to prevent employee exposure.

### **Redesign to reduce exposure:**

The second priority is to physically reduce the hazard through the design and implementation of engineering controls. This can be accomplished with modifications to the work process, the plant or the materials being received. Some examples are to perform job design changes or install mechanical equipment, such as a conveyor. Engineering controls do not require human intervention to reduce or eliminate a hazard. For example, in a

warehouse dry goods operation, employees repeatedly complain of headaches and nausea. With a little investigation it is determined that the forklift is fueled by gasoline and is not appropriate for warehouse use as it gives off carbon monoxide. So, the Risk Manager purchases forklifts that burn clean fuel, such as propane and the exposure to CO is eliminated. Understand that less effective controls could have been attempted such as increasing ventilation or requiring employees to wear respirators. Obviously, changing the equipment is the best most effective method as it eliminates the root source of injury cause. Another example would be in a plant with high noise exposure. An engineering control would be to enclose the machine or install noise absorption baffles in the machine area.

### **Safety Technology:**

The third priority is to apply safety technology to reduce the risk of injury. Examples of applying safety technology include safety training, instructions, and warning signs.

### **Personal Protection Equipment:**

The final technique is to use PPE to protect the worker from the hazard. Sometimes this is the only safety control that is feasible. This is the last resort to hazard elimination. The reason it is last is because it requires safety education and employee behavior. Education requires comprehension and application of the message. That is, safety education, once delivered, requires employee behave in a certain way (wear PPE) and that requires supervision. Technically, the use of PPE is called an administrative control.

### **The OSHA PPE Standard:**

The Occupational Safety and Health Administration (OSHA) require employers to comply with CFR 1910.132 which establishes the criteria for PPE. Employers are required to pay for PPE to protect employees, except where equipment is

personal in nature and may be used off the job, such as work shoes.

It is the employer's responsibility to provide necessary personal protective equipment to according to the Hazard Assessment Certification. The Safety Director should take the lead role to prepare and update the Certification of Hazard Assessment. This assessment should be made after conducting an extensive review of work areas, consulting with department heads, and researching available resources, including OSHA's regulations (Section 1910.141-147) and ANSI standards, as well as other professional groups and consultants to identify hazards.

This does not have to be complex or extensive, however the standard does require that a Hazard Assessment be completed for each operation and signed by the person that performed the assessment.

### **Certification of Hazard Assessment**

Job category/task: \_\_\_\_\_ Work area: \_\_\_\_\_  
Hazard sources: \_\_\_\_\_ (example: grinder)  
Hazard: \_\_\_\_\_ (example: flying fragments)  
Protective equipment: \_\_\_\_\_ (example: goggles and face shield)  
Certified by: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_  
This is to certify that we have complied with OSHA Act CFR 1910.132.  
Signed: \_\_\_\_\_ Safety Director

The Certification should be reviewed by the Safety Director and updated annually and as any new jobs or processes are created. Supervisors should notify the Safety Director whenever there are any changes in job responsibilities or new jobs are created.

### **Personal Protective equipment includes:**

- Eye protection (impact resistant glasses)
- Face protection (face shield)
- Respiratory protection (respirators)

- Head protection (hard hats)
- Foot protection
- Hand protection (gloves)
- Electrical protective equipment (insulated gloves/flame resistant shirts)
- High Visibility Vest
- Hearing Protection (ear plugs, enclosed earmuffs)
- Aprons (chemical resistant)
- and other forms of PPE

Supervisors should provide appropriate personal protective equipment to employees after consulting with the Safety Director and reviewing the hazard assessment certification. The equipment should be in good condition. Additional provisions of the standard are;

- Provide annual training to employees on the proper use of the equipment and as the equipment changes. Training topics must include when the PPE is necessary; what type of PPE is necessary; how to put on, take off, adjust and wear the PPE; the limitations of the PPE; and the proper care, maintenance, useful life and disposal of the PPE.
- Strictly enforce the proper use of the equipment.
- Perform annual fit testing of equipment.
- Maintain the following records of employee training.

### **PPE Training Record**

Employees are required to use and care for the assigned PPE as hazards present. They should follow directions for cleaning and maintaining the equipment. Also, they should communicate any problems with proper fit to their supervisors such as defects or worn equipment parts. PPE should be stored away from contaminants such as chemicals, saw dust, metal dust, etc.

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