# Personal Protective Equipment (Eyes)

## Safety Meeting Packet


An estimated 1,000 eye injuries occur in American work places each day, costing more than $300 million annually in lost production, medical costs, and workers compensation benefits. No amount can adequately reflect the personal suffering and pain that these accidents inflict on injured workers.

The National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA), among others, are working to reduce the number of work-related eye injuries. It is important for employers to recognize hazards and work to prevent injuries.

## Contributing Factors

A survey of 1,000 minor eye injuries by the U.S. Labor Department's Bureau of Labor Statistics (BLS) revealed how and why many on the job eye accidents occur.

A large majority (60%) of the injuries involved workers who were not wearing any eye protection at all. Workers who did use eye protection often used the wrong type of protection. Workers wearing only eyeglasses without side shields accounted for 40 percent of eye injuries when some form of protection is worn. Although some injuries still can occur when full-cup and flat-fold side shields are worn, they offer better protection than eyeglasses alone. Tight-fitting goggles offer the most complete protection.

The BLS found that almost 70 percent of the accidents studied resulted from flying or falling objects, and nearly 60 percent of those injuries involved objects smaller than a pinhead. Contact with chemicals caused about 20 percent of the injuries, and most of the remaining 10 percent was attributed to being struck by objects such as chains, ropes, tree limbs, or tools.

## Risk of Injury

Eye injuries can occur at any workplace but there are certain types of jobs where the hazard risk is elevated.

- The BLS reported that more than 40 percent of the injuries studied involved craft workers such as mechanics, repairers, carpenters, and plumbers.
- Operatives such as assemblers, grinding machine operators, and sanders accounted for more than 30 percent of the injured workers.
- Laborers suffered about 20 percent of the eye injuries.

## Prevention

Always wear effective eye protection. OSHA standards require that employers provide and workers wear adequate eye protection. Eyewear that is not the appropriate type or properly fitted will fail to protect employees sufficiently. According to the BLS survey, over 90 percent of injuries while wearing eye protection were caused by debris or caustics going under or around the protector.

Nearly 20 percent of injuries occurring while eye protection was in place happened when the employees wore face shields or welding helmets. Less than six percent of the injured workers were wearing goggles, which offer better protection under the shield.

Providing adequate training and education can be very effective. BLS reported that most workers were injured while doing their regular jobs. When an injury occurred while not using protective eyewear, most workers said that they believed protection was not required to perform the task. Although eye protection was provided at no cost to most employees, about 40 percent reported having no information on what type of eye protection should be used and where to find it. An employee should not hesitate to ask his or her employer for eye protection and training if they feel it is needed for a job.

## Considerations

Care should be taken to recognize the possibility of simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each hazard must be provided. Protective devices do not provide unlimited protection. Consider the following when selecting eye protection:

- Shaded or tinted lenses cannot be used as filter lenses unless they are labeled as such by the manufacturer.
- If a worker requires prescription lenses to see properly, he or she must wear protective devices designed to be worn over regular prescription eyewear without disrupting the worker's vision or protective devices fitted with prescription lenses.
- Dusty and/or chemical environments may pose an additional hazard to contact lens wearers. Contact lenses do not provide protection, so wearers must use appropriate eye and face protection.
- When a worker's eye protection has metal frames, care should be taken in electrical hazard areas.
- Clean lenses frequently when atmospheric conditions, restricted ventilation, or environmental factors cause them to fog or get dirty enough to inhibit proper vision.
- Welding helmets or face shields do not provide adequate protection on their own. Wear glasses or goggles as well.
- Non-side shield glasses may be used for frontal protection only. They are not sufficient when eye protection for 'impact' is needed.
- Eye protection should have adequate ventilation yet prohibit splash entry.
- Select the darkest shade of lens density that still allows for task completion when choosing lenses for protection from light radiation.

## Injury Types

Eye injuries are separated into three categories: physical, chemical, and thermal. Workplace hazards may expose employees to one or more of the types of eye injury. The safety measures to prevent these injuries and the appropriate first aid response depends on the cause and the type of injury.

### Physical Injuries

The most common physical eye injuries are the result of falling objects, moving objects, and sparks. Workers exposed to physical eye injuries should wear properly fitting safety eyewear with polycarbonate lenses. The eyewear must be designed for the hazards the worker will encounter.

If the injury results in a puncture, cut, or foreign object in the eye:

- Do not touch or flush eye
- If object is stuck in eye, do not attempt to remove
- Cover both eyes (sterile dressing over uninjured eye, a paper cup over the injured eye)
- Seek medical treatment immediately

If the injury results in particles in the eye:

- Do not touch or rub eye
- Flush eye thoroughly with water
- Seek medical treatment if particles do not wash out or if pain continues

If the injury results from a high-impact blow or strike:

- Apply a cold compress
- Do not apply pressure to the eye
- Seek medical treatment if prolonged pain, blurred vision, or eye discoloration is experienced

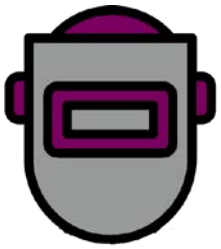
### Chemical Injuries

Chemical eye injuries occur when the eye is exposed to splashes or fumes when working with chemicals. As with physical injuries, it is important for workers to wear the proper type of tight-fitting, ventilated safety eyewear that provides protection from chemical exposure from all sides.

If the injury results from exposure to chemical splashes, fumes, or vapors:

- Flush eye with water immediately (approximately 15 minutes) keeping eye open as wide as possible
- When flushing, make sure the stream of the water is running away from the uninjured eye
- Seek medical treatment immediately

### Thermal Injuries



Thermal eye injuries are a result of exposure to high temperatures, which is a common in industries such as welding. The best protection against this type of injury is a face-shield that covers the face and neck while wearing safety eyewear underneath.

If the injury results from exposure to high temperatures:

- Flush eye with cool water
- Cover eye with sterile dressing
- Do not apply pressure to the eye and do not pop blisters if they form
- Seek medical treatment if pain, discomfort, and blisters persist

## Maintenance and Care

The regular inspection and maintenance of safety eyewear is essential if it is to be effective against eye injury hazards. Safety eyewear should be cleaned according to the manufacturer's directions after each shift or as needed and shared eyewear should be washed after each use. Anti-fogging products may also be applied to reduce eyewear fogging. Eyewear should be inspected for loose parts and any sort of damage, such as scratched, faded, cracked, or pitted lenses, that could compromise their strength or obscure the wearer's view.

## Worker Training

It is recommended that employers educate their workers about the risk of eye injury in the workplace, the types of protection available, and first-aid care, should an eye injury occur.

- Identify the hazards present in the workplace
- Review considerations when selecting the appropriate type of eyewear
- Discuss the three categories of eye injuries: Physical, Chemical, and Thermal
- Review how the required eye protection varies by exposure
- Review first-aid procedures based on the type of injury
- Review the proper procedures for cleaning and storage of protective eyewear
- Review eyewear inspection procedures and discuss repair versus replacement

For additional information, please review the following OSHA standard 29 CFR 1910.133

# Personal Protective Equipment (Eyes)
## Safety Meeting Attendance Acknowledgement

Company Name _____

Department / Division _____

Meeting Date & Time _____ _____ ☐ AM ☐ PM

Meeting Location _____

Name & Title of Individual Conducting Meeting _____

## Key Meeting Discussion Points / Important Reminders:

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## Internal Procedures Reviewed:

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**By signing this document, you confirm your attendance at the meeting and acknowledge the issues addressed above!**

| Employees in Attendance | | |
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Employees not present: _____

Suggestions/Recommendations to improve workplace safety and health: _____

Actions Taken: _____

Manager/Supervisor: _____ Date: _____

## Disclaimer:

The information provided above was assembled using multiple resources. However, these materials do not contain ALL the information available regarding the required safety standards under local, provincial, state, or federal law for your industry.