

### Before you begin

Review this information and your company policies with respect to emergency eyewash and showers. Survey your facilities for examples of areas where these devices are in place and the types in use. Photographs of the units or manufacturers' information sheets can aid in your discussion with the employees.



### Introduction

Chemical exposures can cause serious eye and body injuries. The Bureau of Labor Statistics (BLS) states that chemical products caused 16.4% of all eye injuries in 2018. The Occupational Safety and Health Administration's (OSHA) standard, 29 CFR 1910.151(c), states "Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use." Additionally, The American National Standards Institute's (ANSI) standard, Z358.1-2014, recommends the affected area of the body should be flooded with a steady flow of water for a minimum of 15 minutes. Having the right type of unit in the appropriate location is key to reducing the potential for serious bodily damage if an incident should occur.

### Definitions

**Emergency shower:** A device specifically designed and intended to deliver flushing fluid in sufficient volume to cause that fluid to cascade over the entire body.

**Eye/face wash:** A device used to provide fluid to irrigate and flush both the face and the eyes simultaneously.

**Eyewash:** A device used to provide fluid to irrigate and flush the eyes.

**Tepid:** A flushing fluid temperature conducive to promoting a minimum 15-minute irrigation period. A suitable range is 60 -100 F.

## Discussion

Common problems associated with emergency eyewash stations are keeping them accessible, clean and in good operating condition. Despite the amount of use, a standard weekly maintenance procedure must be established to ensure that units are maintained and ready when needed. Eyewash stations must be tested on weekly basis to ensure the unit is working properly and to flush the lines and remove any debris build up. Weekly testing helps clear the supply lines of sediment and bacteria build-up that is caused by stagnant water. Maintenance and inspections must always be documented.

It is imperative each organization's safety program address the importance of using the appropriate protective clothing and equipment, so the need to use the quick drenching devices is minimized.

To ensure these devices will be used when needed, employees must be trained to recognize:

- When to use the devices.
- How to use the devices.
- Where the devices are located.

Current guidelines for installing emergency eyewash/showers include:

- The eyewash/shower shall be within 10 seconds walking time from any potential hazard, and the path to the device should be as unobstructed as possible.
- The eyewash/shower shall be on the same level as the hazard.
- Depending on the severity of the hazard it may be prudent to locate the eyewash/shower much closer to the hazard area.
- The ANSI Standard Z358.1-2014 calls for the water temperature to be tepid or lukewarm (between 60 F and 100 F) with a flow rate of 0.4 gallons per minute (GPM) which is 1.5 liters for a full 15 minutes.

Other possible issues that may need to be addressed in the workplace:

- Where whole body exposure to a contaminant is likely, it may be prudent to have an enclosed shower since it is likely that the exposed person will have to disrobe.
- Self-contained/portable units should be maintained in accordance with the manufacturer's instructions. Particular attention must be given to flushing fluid and availability.
- Provide flush water containment if no plumbed drainage available.
- Provide eyewash stations with protective dust covers on the heads to keep them free of debris. The covers should flip off when the flushing unit is activated.
- Squeeze bottles are considered a secondary eyewash and a supplement to ANSI compliant eyewash stations and should not be used in place of an ANSI compliant unit.
- Recommend painting or marking the floor area underneath the eyewash/shower to keep it clear.
- ANSI Z358.1-2014 recommends equipment be installed in a brightly lit area and marked with highly visible safety signs.

## Conclusion

Identifying potential eye and body exposures can help prevent life changing eye injuries and burns. A review of safety data sheets along with identification of task and process where chemical exposures are likely to occur will assist in determining the appropriate eye wash/shower stations for your facility.

## Group activities

- Instruct your employees to identify in their respective work areas possible eye exposures.
- Ask them to make an initial determination of whether there is a likelihood of exposure to the eyes in their work area. And then determine if there is an adequate device appropriately located or if one needs to be installed.
- As a group discuss their conclusions, and evaluate any deficiencies identified to addressed.

**Resources**

[Keep Eyes Healthy at Work, Prevent Blindness.org](#)

[Safe Work Manitoba - Emergency Washing Facilities](#)

[Occupational Health & Safety - Understanding the ANSI Z358.1-2014 Standard for Plumbed and Portable Eye-wash Stations](#)

[OSHA – Eye and Face Protection eTool](#)

[OSHA'S 29 CFR 1910.151\(C\)](#)

[ANSI Z358.1-2014 Emergency Eye Wash & Shower Equipment](#)

[Bureau of Labor Statistics, Occupational Injuries/Illnesses and Fatal Injuries Profiles \(Case and Demographic Numbers - EYES 132XXX\)](#)