

# MIOSHA Fact Sheet



## Eyewashes and Safety Showers

### When must eyewashes and safety showers be provided?

Suitable facilities for quick drenching or flushing of the eyes and body must be provided within the work area for immediate emergency use when the eyes or body of any person may be exposed to injurious or corrosive substances.

### What is an “injurious or corrosive substance”?

These are chemicals that meet the classification requirements described in [Parts 92 and 430 Hazard Communication](#) in the following categories: Skin Corrosion - Category 1A, 1B, 1C; and Serious Eye Damage/Eye Irritation - Category 1 and 2A.

Look for any of the following statements on the chemical manufacturer’s label and in Section 2 of Safety Data Sheet (SDS) to determine if an eyewash/shower is required: “severe skin burns and eye damage”; “serious eye damage”; or “serious eye irritation”.

The pH of a chemical may also be used to determine if chemicals are damaging to eye or skin or severely irritating to the eye. Corrosive substances include acids with pH equal to or less than 2.0, and bases (alkaline) with a pH equal to or greater than 11.5.

Common acids and bases are sulfuric acid (vehicle battery acid), hydrochloric (muriatic) acid, nitric acid, phosphoric acid, sodium hypochlorite (bleach), sodium hydroxide (caustic soda), and potassium hydroxide. Some substances may meet the pH criteria but have a low level of corrosiveness and contact with the eyes or body is unlikely to cause injuries. These substances include some

alkaline hand soaps, vinegar, and lemon juice. Injurious substances are not corrosive but can cause severe injury to the skin or eye. These include organic substances such as formaldehyde, methylene chloride, methyl ethyl ketone peroxide [MEKP], and phenol.

For mixtures of injurious or corrosive substances, Part 92 and 430 Hazard Communication, Appendix A identifies injurious or corrosive mixtures as follows:

- Skin Corrosion - Category 1A, 1B and 1C at  $\geq 5\%$  in the mixture.
- Serious Eye Damage - Category 1 at  $\geq 1\%$  in the mixture.
- Serious Eye Irritation - Category 2A at  $\geq 10\%$  in the mixture.
- Chemicals with a pH  $\geq 11.5$  or  $\leq 2.0$  at  $\geq 1\%$  in the mixture (unless the tested pH of the mixture demonstrates the pH is outside the parameters where an eyewash is required).

Refer to Parts 92 and 430 Hazard Communication, Appendix A for additional information related to combination of mixtures containing more than one of the above categories.

### What does “suitable facilities” mean?

The terms suitable facilities, appropriate eyewash facilities, and other such terms that appear in various MIOSHA standards/rules are described in the ANSI (American National Standard Institute) standard for Emergency Eyewash and Shower Equipment (Z358.1 – 2014). Variations are permitted for operations covered by MIOSHA [Part 78 Storage and Handling of Anhydrous Ammonia](#) and [Part 526 Dipping and Coating Operations](#).

The emergency eyewash/shower must be activated

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Consultation Education and Training Division  
530 Allegan Street • P.O. BOX 30643 • LANSING, MICHIGAN 48909-8143  
www.michigan.gov/miosha • (517) 284-7720  
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within 1 second and must not require a separate action to remove covers. Eyewash covers can be pushed off/opened by water pressure. Ensure employees are properly trained in the operation and activation of the eyewash/shower and that activation occurs in 1 second or less.

### **Does MIOSHA permit the use of personal use eyewash units in lieu of suitable eyewash facilities?**

Personal use eyewash units (e.g., 12 to 16-ounce eyewash bottles) **do not meet the criteria** of plumbed or self-contained eyewash equipment. These units are only supplemental devices that support plumbed and/or self-contained units by delivering immediate flushing fluid to the eyes or body.

### **Where must the suitable eyewash/shower to be located?**

ANSI Z358.1 – 2014 recommends the placement of emergency eye wash/shower equipment be dependent upon a time-response criteria. MIOSHA's policy is that an eyewash must be provided within a 10-second travel time (approximately 55 feet) of an operation where employees use an injurious or corrosive substance.

The location of the shower and/or eyewash facility shall be on the same level as the hazard, easily accessible (no obstacles, closeable doorways, or turns), clearly marked, and well lighted.

### **Does MIOSHA require testing of such facilities?**

MIOSHA standards do not specifically require testing of plumbed emergency eyewashes or safety showers. Follow the manufacturer's recommendation for testing. Remember that these facilities are provided for "emergency use." Testing is necessary to ensure that facilities perform per the manufacturer's specifications. The purpose of testing is to ensure the unit will operate properly and the water is uncontaminated. Failure to routinely flush the water supply pipe can cause the water to be rust colored, contain sediments, and

have microbial growth due to stagnant water in "dead leg" sections of plumbed systems.

Self-contained eyewashes do not require routine flow-testing. However, they must be serviced per the manufacturer's guidelines and routinely inspected to ensure proper operation.

### **Does MIOSHA require the supply of tempered water at plumbed eyewash and safety showers?**

MIOSHA standards do not require any specific temperatures. However, implied in the term "suitable facility" is providing a water temperature that is not too cold or hot (temperatures between 60° and 100° F). Temperatures below 60° F may cause the employee not to use the facility long enough (15 minutes). Temperatures above 100° F may be too hot and enhance adverse chemical interactions with the eyes and skin.

### **Are there any MIOSHA Standards/Policies that specifically require emergency eyewashes and safety showers?**

Several MIOSHA standards require the availability of suitable facilities to protect employees:

- [Part 21, Power Industrial Trucks.](#)
- [Part 78, Storage and Handling of Anhydrous Ammonia.](#)
- [Part 306, Formaldehyde.](#)
- [Part 313, Methylene Chloride.](#)
- [Part 472, Medical Services and First Aid.](#)
- [Part 526, Dipping and Coating Operations.](#)
- [Part 554, Bloodborne Infectious Diseases.](#)

See also MIOSHA's policy on [Eyewash/Shower Equipment](#).

### **Additional Information**

Please visit the MIOSHA website at [www.michigan.gov/mioshapublications](http://www.michigan.gov/mioshapublications) where additional information may be available; or contact the Consultation, Education and Training Division at (517) 284-7720.