

fast facts

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Emergency Eye Wash and Shower Units

In an ideal workplace, employers would always be aware of potential dangers to employees' eyes, and employees would always wear Personal Protective Equipment (PPE). But some workplaces aren't ideal, and accidents do happen. Therefore, in workplaces where corrosive chemicals are handled, the Occupational Safety and Health Administration (OSHA) requires that facilities for drenching or flushing the eyes be provided in the work area for immediate emergency use.

Emergency eye washing capacity is often provided in one of three ways. The preferred method is to provide stations equipped with plumbing that supplies water to be used to flush the eyes and rinse the face. These stations should be flushed of potentially dangerous microbes at least monthly. At that time, they should also be inspected to ensure they function properly, providing an even spray. Once activated, they should remain on, hands-free, until turned off. To

promote effective use, it is recommended that the temperature of the water be comfortable, which may mean inclusion of a mechanism to automatically premix hot and cold water before it enters the eye wash or shower.

Where it is not practical to provide plumbed equipment, a station with a reservoir holding an adequate supply of commercially prepared solution is sometimes used. The fluid in these eye wash stations needs to be periodically changed, in accordance with its manufacturer's specifications, to insure it is safe for use. Many of these solutions cannot be used in unheated buildings where they are exposed to freezing temperatures unless reservoir heaters are provided.

Non-plumbed eye wash and shower units should also remain on, hands-free, until turned off. Performance of gravity-fed eyewash stations should be periodically checked to ensure proper flow is provided, while conserving the finite amount of solution in its reservoir. The reservoir's level should also be checked periodically and after each use to ensure it holds an adequate supply.

Personal eye wash units, typically squeeze-bottles holding approximately a quart of eyewash solution, are sometimes made available. They are best suited for employees, like custodians and maintenance employees, whose mobility takes them away from the emergency facilities. However, they may not be relied upon as the primary source of first aid treatment - employees must also have access to a device that can provide the longer flushing necessary to limit eye damage. It is important that mobile employees who use these personal units know the locations



Figure 2: Obstructed Access to an Eye Wash

of spare units that can continue to provide flushing after their bottle is empty. All employees who work in the area need to know where the spare bottles are located.

To promote quick use, emergency shower and eye wash stations should be located in well-lit areas, and should be indicated with readily observable signs. Employees should be trained in their locations, the importance of not obstructing the pathways to them, and how and when to use them.

It is important that no objects be placed in the pathway where they would obstruct and delay an unassisted, potentially blinded person who needs to reach these emergency facilities. During performance of the biennial inspections for the 109th Congress, the OOC's inspectors found 43 locations where access to emergency eyewash or shower stations was inadequate because of obstructions placed in the pathway.



Figure 1: Battery Charging Station for a Forklift with Blocked Non-plumbed Eye Wash with Inspection Tag Attached

Someone needs to be designated as the periodic inspector of these emergency facilities. After inspection, an attached tag or nearby log book should be marked with the date and inspector's initials. Supervisors should check these records periodically to ensure the emergency facilities are being inspected to ensure proper operation. A work order request should be immediately submitted when anyone identifies problems, and repairs should be quickly performed to promptly return equipment to serviceable condition. The American National Standards Institute (ANSI) has published and periodically updates voluntary national

consensus standards regarding emergency eye washes and showers.

Flushing and drenching the eyes after exposure to liquid chemicals are first aid measures to minimize the extent of injury - not to prevent it. It is important to ensure all the chemical has been washed from under the eyelids, which can be difficult to accomplish when the natural response to eye pain is to tightly close the eyes. Wearing of contact lenses can add to the danger because it may trap chemicals against the eye under the contact lens. Therefore they must be removed to accomplish effective

flushing of the eye. Employees suffering from eye injuries or any other serious chemical burns should be referred to a healthcare professional for evaluation and any additional required treatment.

Numerous building maintenance and process activities—for example, changing, charging and filling large batteries—involve use of hazardous chemicals. Regardless of the circumstances, employers must ensure that employees working with chemicals must be able to quickly and easily flush and drench their eyes in the case of accidental exposure.

fast stats

- 4,811 chemical burn injuries to eyes were reported in 2002 (Source: U.S. Bureau of Labor Statistics).
- During the inspections of the 109th Congress, Office of Compliance inspectors found 43 locations deficient in their provision of access to emergency eyewash and showers facilities.
- Most battery charging areas need to be equipped with emergency eyewash facilities. They are needed in all locations where corrosive chemicals are used.
- Squirt bottles alone are not adequate first aid provisions. They are intended to be used while injured employees are transferred to a station that can flush for an appropriate period of time. The appropriate time varies, depending on the substance, and may be indicated on the product's material safety data sheet (MSDS).
- OSHA requires employers to assess whether hazards in workplaces necessitate the use of personal protective equipment. Employees must use necessary protective equipment selected by the employer after they have received their training for using said equipment (29 CFR 1910.132).
- OSHA requires that suitable facilities for quick drenching or flushing of the eyes and body be provided within the work area for immediate emergency use when the eyes or body of any person may be exposed to injurious corrosive materials (29 CFR 1910.151(c)).
- ANSI Z358.1 provides detailed guidance on the installation, operation and maintenance of emergency eyewash and shower equipment. That national consensus standard has not yet been adopted by OSHA.



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