

From TJC Department of Engineering

Demystifying Eyewash Stations

OFTEN MISUNDERSTOOD, EYEWASH STATIONS (AND SHOWERS) ARE REQUIRED IN HEALTH CARE FACILITIES WHERE STAFF MEMBERS HANDLE CAUSTIC OR CORROSIVE CHEMICALS



The Joint Commission's Department of Engineering fields many questions related to the location and maintenance of eyewash stations. Surveyors often encounter eyewash stations where they are not needed (in rooms where no corrosive or caustic chemicals are handled) and note the absence of such flushing devices in areas where they are required by the Occupational Safety and Health Administration (OSHA). Furthermore, The Joint Commission frequently cites health care facilities for inaccessible or improperly maintained eyewash stations.

Although not specifically mentioned in the "Environment of Care" chapter, eyewash station requirements fall under EC.02.02.01, "The hospital manages risks related to hazardous materials and waste." Under this standard, Element of Performance (EP) 5 is the one that ultimately determines whether an eyewash station is needed: "The hospital minimizes risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous chemicals."

Per OSHA 29 CFR 1910.1200(g), which references the [Globally Harmonized System](#) of Classification and Labeling of Chemicals (GHS), every hazardous chemical used in a workplace requires a safety data sheet (SDS) supplied by the manufacturer, distributor, or importer. The SDS reveals whether a chemical can cause serious or severe eye damage and describes the appropriate first aid measures to take upon eye contact. For corrosive chemicals commonly used in health care, such as glutaraldehyde (used to sterilize surgical equipment) and formaldehyde, and for caustic chemicals used in facility cleaning and boiler maintenance, including bleach and sodium hydroxide (caustic soda), the applicable SDS recommends flushing eyes with a stream of water for several (often 15 to 20) minutes.

OSHA's requirements for emergency eyewashes and showers can be found in 29 CFR 1910.151(c): "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." OSHA refers employers to ANSI Z358.1 (last updated in 2014), including the standard's Appendix B, for guidance on the location and description of eyewash stations and showers; however, OSHA has never adopted this standard as a regulatory requirement.

Assessing risks

Joint Commission surveyors refer to both the OSHA requirements and ANSI standards to assess the eyewash stations and showers they see in the field.

To maximize worker safety and avoid citations, it's critical for hospitals and other health care facilities to conduct thorough risk assessments. In addition to requiring employers to follow the precautions spelled out in the SDS for each chemical solution used in the work environment, OSHA 29 CFR 1910.1048(i)(3) states that if there is any possibility that an employee's eyes may be splashed with solutions containing 0.1% formaldehyde, acceptable eyewash facilities must be provided within the immediate work area for emergency use.

Similarly, OSHA 29 CFR 1910.1048(i)(2) states that if an employee's skin could become splashed with solutions containing 1% or more formaldehyde (because of equipment failure or improper work practices, for example), the employer must provide conveniently located quick drench showers and ensure that affected employees use these facilities immediately. When employees handle chemical solutions that are very acidic or very basic—with a pH of less than 2.5 or more than 11—immediate access to an eyewash station and drench shower must also be provided.


OSHA also requires the use of goggles, face shields, and other personal protective equipment (PPE) such as respirators (depending on the chemical solution). Even so, the use of PPE does not diminish the need for eyewash stations and emergency showers.

Ensuring 10-second access

Health care workers need to be able to reach an eyewash station within 10 seconds of their eye or eyes coming into contact with a corrosive or caustic chemical. The water in a plumbed station—or other flushing fluid in a gravity-fed (self-contained) station—needs to be tepid, kept at a temperature of between 60° and 100 F° (per ANSI Z358.1, Appendix B). The ANSI standard provides additional guidelines related to fluid pressure, valves, fluid flow pattern, and clearance from the wall and other obstructions.

Anytime you have an eyewash station, it must be maintained. A plumbed station must be activated weekly to ensure proper operation, while gravity-fed units must be inspected weekly and maintained per the manufacturer's instructions. All eyewash stations should be inspected annually to make sure they meet ANSI Z358.1, which is referenced by OSHA and used as guidance by Joint Commission surveyors. In health care and other occupational settings, workers who might be exposed to chemical splashes need to be trained in the use of eyewash stations.

The access, maintenance, inspection, and training guidelines for emergency showers are similar to those for eyewash stations.

The requirements and standards related to chemical hazards and eyewash stations are not especially complex, but the information isn't all in one place. Health care facilities need to be sure they are following best practices to keep their workers safe. 

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