Chapter 53: Chemical Safety

Emergency Eyewash / Shower Requirements

Purpose

The purpose of these requirements is to ensure emergency eyewash and shower stations are available to help protect workers after an eye or skin exposure to chemicals that may cause injurious corrosion, severe irritation, or permanent tissue damage, or are toxic by skin absorption. The requirements cover selecting, installing, inspecting, and maintaining emergency eyewash and shower stations. They apply to workers (as chemical workers, who use hazardous materials or work in areas where they may be exposed to them), supervisors, area and building managers, ESH coordinators, the Chemical Safety program manager, ESH, and Facilities and Operations.

Requirements

Note Emergency eyewashes, showers, and drench hoses are not substitutes for proper eye and face protection, such as chemical splash goggles, face shields, and protective clothing. (See Chemical Safety: Personal Protective Equipment Requirements.)

Eyewash and shower stations are required in areas where workers can come into contact with hazardous chemicals.

Area managers must

- Ensure that appropriate emergency eyewash and shower equipment is available in the work area
- Know where the equipment is located
- Ensure that workers are instructed in the location and proper use of eyewash/shower stations. A copy of the Chemical Safety: Emergency Eyewash/Shower Use Procedure should be placed at each station to supplement training

Building managers responsible for such areas must

- Ensure maintenance and routine activation or visual checks are performed, including keeping the stations free of obstructions

Installation

All Stations

The following requirements apply to all emergency eyewash and shower installations.
1. Sole purpose must be as an eyewash or shower.
2. Travel time must be no greater than 10 seconds from the hazard. Passages/access to the unit must be unobstructed.
3. Where the hazard is not corrosive, a single door may be in the path, as long as it cannot lock from the direction of travel and opens toward the eyewash or shower.
4. The installation must be designed and positioned in such a way as to pose no hazard to the user.
5. The installation must be marked with a highly visible sign. The sign and unit must be well lit.
6. For outdoor installations, the unit will be protected from freezing or freeze-protected equipment (designed to operate under freezing conditions) must be installed.
7. Installations should deliver tepid flushing fluid (defined as 16°C–38°C [60°F–100°F] by ANSI Z358.1)
8. If shutoff valves are installed in the supply line for maintenance purposes, provisions must be made to prevent unauthorized shutoff.
9. The actuation valve must be simple to operate, activate the water source within one second of operation, and remain open until intentionally closed.
10. The manufacturer’s instructions covering installation, operation, inspection, and maintenance requirements must be readily available to maintenance and training personnel. Note: Hand-held drench hoses may be installed to supplement eyewashes or showers but may not replace them.

2.1.2 Emergency Eyewash Installations
1. The eyewash must provide flushing fluid to both eyes simultaneously and be designed such that, once activated, it can be used without the use of the operator’s hands.
2. The eyewash nozzles must be positioned 33 to 53 inches from floor and 6 inches from the wall or nearest obstruction.
3. The water supply must be plumbed unless access to water is not feasible.
4. The water supply must provide 0.4 gallons per minute for at least 15 minutes.
5. Nozzles and flushing fluid units must be protected from airborne contaminants in a manner that does not require a separate motion from the operator.
6. For indoor installations, the eyewash drainpipes should be plumbed to a sink or directly to the sewer line.
7. Self-contained eyewash units may be used in areas where it is not feasible to install plumbed units.

2.1.3 Emergency Shower Installations
1. The shower will provide flushing from a height of at least 82 inches and not more than 96 inches from the surface on which the user stands.
2. The spray pattern will be a minimum of 20 inches wide at 60 inches above the floor.
3. The shower will provide a minimum flow of 20 gallons per minute for 15 minutes.
4. The installation of a floor drain is optional. If a floor drain is installed, it must be protected from contamination by chemical spills. The floor drain may be fitted with a temporary plug to protect the floor drains from chemical intrusion (unless protected from spills by a covered sump or berm system). Alternatively, chemicals may be stored in spill containment.
5. The valve actuator must not be more than 69 inches above the floor, be simple to operate, must activate the shower from off to on in 1 second or less. The valve must remain open without the use of the operator’s hands until intentionally closed.

### 2.2 Inspection and Activation

ESH will inspect the performance of eyewash and shower stations annually, as described in 8 CCR 5162, and provide a written report to the owner. The owner is assumed to be the area, laboratory, or building manager, but may be an ESH coordinator.

Plumbed eyewashes will be activated weekly by the building manager to verify proper operation and run until the flushing fluid is clear. Self-contained eyewashes do not need to be activated but must be checked visually to determine if the flushing fluid needs to be changed or supplemented.

Showers will be activated and flushed monthly by the building manager to verify proper operation and run until the flushing fluid is clear.

If the station fails to activate, the building manager must remove it from service and notify the ESH coordinator immediately.

### 3 Forms

The following forms and systems are required by these requirements:

- A sticker or tag must be available near stations for logging activations and visual checks. Tags are available commercially (from such sources as Grainger). Contact the Chemical Safety program manager for assistance if needed.

### 4 Recordkeeping

The following recordkeeping requirements apply for these requirements:

- The results of the required activations or visual checks must be logged on a tag available near the station, including the name or initials of the person and the date.
- The results of annual inspections by ESH must be provided in writing to the owner.

### 5 References

**SLAC Environment, Safety, and Health Manual** (SLAC-I-720-0A29Z-001)

- Chapter 53, “Chemical Safety”
  - Chemical Safety: Emergency Eyewash/Shower Use Procedure (SLAC-I-730-0A09C-008)
  - Chemical Safety: Personal Protective Equipment Requirements (SLAC-I-730-0A09S-017)
  - Chemical Safety: Accidental Exposure Requirements (SLAC-I-730-0A09S-041)
Other SLAC Documents

- Chemical Management Services (CMS)

Other Documents
