



Safety Shower Systems Quick Facts

Accidents happen in an instant. A researcher leans over a beaker. A worker adjusts a valve. Suddenly, corrosive liquid splashes onto exposed skin or into their eyes. In that critical moment, there's no time to waste—that's why laboratories, industrial facilities, and anywhere with hazardous chemicals and materials are required to have an emergency shower and/or eyewash station immediately accessible.

Emergency showers and eyewash stations provide the urgent emergency care needed. They deliver a steady flow of water offering immediate decontamination before lasting harm occurs. Their effectiveness depends on design, placement, and compliance with OSHA and ANSI/ISEA Z358.1 standards.

The Occupational Safety and Health Administration (OSHA) states that "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."

The American National Standards Institute (ANSI) sets strict standards and regulations for safety shower systems to ensure they work properly in times of an emergency.

This guide reviews 7 features that define an effective emergency eyewash and safety shower station according to standards stipulated by OSHA and ANSI/ISEA Z358.1.

01

Water release time: every second counts

The first moments after chemical exposure are the most critical. Fast activation ensures immediate flushing, reducing the chance of severe injury. OSHA and ANSI/ISEA Z358.1 require:

- Activation occurs within 1 second or less
- Hands-free operation (once activated, must remain in operation without the use of the operator's hands)
- Continuous flow until manually shut off

02

Safety shower temperature requirements: what is tepid water?

In an emergency eyewash and shower station, water temperature guidelines are often misinterpreted. As per OSHA and ANSI:

- The water temperature needs to be between 60°F (16°C) and 100°F (38°C)
- 85°F (29°C), otherwise known as tepid water, is the ideal temperature

03

Why tepid water is important:

- Water below 60°F can cause shock or hypothermia during the required 15-minute rinse
- Water above 100°F may worsen burns or trigger chemical reactions

85°F tepid water is just right. It's warm enough to gently cleanse without opening skin pores, yet not too cold to discourage usage. Maintaining water within this range ensures user compliance and effective decontamination.

04

Emergency shower/eyewash flow rate requirements

The proper flow rate of the water coming out of the safety fixtures ensures contaminants are removed effectively without causing further injury

- Safety showers: Minimum flow of 20–23 gallons per minute (GPM) at 30 psi for 15 minutes
- Eyewash stations: Minimum flow of 0.4 GPM at 30 psi for 15 minutes
- Eye/face wash units: Minimum flow of 3.0 GPM at 30 psi for 15 minutes
- The stream must be strong enough to remove contaminants yet gentle enough to avoid driving chemicals deeper into the skin, eyes or wounds.

05

Emergency fixture plumbing: fixed vs. self-contained

When selecting an emergency drench/eyewash station, there are two available options:

Fixed Position

- Best suited for permanent labs and industrial sites
- Connected to a continuous supply of potable water
- Always ready for use
- Refilling is not required

Self-Contained

Can be moved to specific locations when needed, better suited for eye wash stations

- Flushing fluid is stored internally, making it portable
- Fluid needs to be refilled after each use

Fixed systems are standard and permanent in areas that require a safety shower and/or eye wash. Self-contained portable eyewash units provide flexibility for field or short-term operations.

06

Flush duration: minimum 15 minutes

According to ANSI/ISEA standards:

- The system needs to run tepid water for a minimum of 15 minutes
- The chemical's Safety Data Sheet (SDS) can help with specific flushing time, some hazardous materials may require longer flushing times

This length of time makes sure that hazardous substances are fully rinsed minimizing the chance of lingering chemical burns or absorption.

07

OSHA safety shower distance requirements: location & accessibility

Safety equipment must be placed where it can be reached within 10 seconds of the hazard. Stations must be:

- On the same level as the hazard
- Clearly marked and unobstructed
- Free of doors or barriers

Best practice: Install within 55 feet (16 meters) of potential hazard zones—never in hallways or behind closed doors.

Compliance Summary

If you're responsible for environmental health and safety (EHS) in a facility that handles hazardous chemicals, compliance isn't optional—it's essential. To meet OSHA/ANSI standards, ensure that emergency showers and eyewash stations:

- Activate within one second, hands-free
- Deliver tepid water (60°F–100°F, optimal ~85°F)
- Maintain proper flow rate for 15 minutes
- Be positioned within 10 seconds of hazard areas
- Be fixed to permanent plumbing where possible

Following these requirements ensures your facility is prepared for the unexpected—and that workers are protected when every second matters.

Quick OSHA/ANSI safety shower/eyewash station requirement checklist

Component	Requirement
Release Time	Under 1 second, hands-free
Water Temperature	60°F–100°F (optimal ~85°F)
Water Pressure	Gentle yet effective
Duration	≥15 minutes, 2.3 GPM
Standards	Meets ANSI/ISEA Z358.1
Location	Within 10 seconds, no barriers
System Type	Fixed preferred; self-contained acceptable



H1113-A-20251029