# Emergency Washes Ready Reference

Updated: 10/2018

## 1. The Law

### A. ANSI Z358.1-2014 is the most current ANSI standard and is required by OSHA for all new additions to an emergency wash program. Criteria for compliance with this law include the following:

- Station must be located within 10 seconds of chemical hazard
- Station must be installed on the same level as the hazard
- Station can only have one hand motion to activate flushing stream
- Station must be able to flush eyes/body for minimum of 15 minutes
- Station must be able to flush both eyes simultaneously
- Eye wash stations must deliver fluid at 0.4 gpm (gallons per minute)
- Eye/face wash stations must deliver fluid at 3.0 gpm
- Emergency showers must deliver fluid at 20 gpm
- **Flushing fluid must be tepid in temperature (16-38 degrees Celsius (60-100 degrees Fahrenheit). If a plumbed unit is used, a mixing valve should be used to blend hot and cold water to the desired temperature.**
- Path of travel from the hazard to the equipment should be straight and free of obstructions. When working with particularly strong acids, caustics, or other materials that could cause serious eye injuries, emergency equipment should be installed immediately adjacent to the hazard.

### B. OSHA 29 CFR 1910.151 is the standard for First Aid that requires: "…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 with the work area for immediate emergency use."

- Since this standard does not define what constitutes "suitable facilities" for drenching the eyes or body, the ANSI Z58.1 standard is intended to serve as a guideline.

## 2. The Essentials

### A. What Are the Categories of Emergency Washes?

**Personal Eye Washes**

- Range in size from 1-32 ounces
- Not ANSI or OSHA compliant
- Designed to supplement, but not replace a permanent eyewash station
- An ideal first response measure to use during transit to ANSI-compliant eyewash station
- Most have a 2-year shelf life
- Fluid is normally a buffered, pH balanced solution

- Caps are not replaceable to prevent refilling with tap water, which can be dangerous

**Gravity-Fed Eye Washes**
- There are two categories of Gravity Fed Eyewashes. To be compliant they must supply 0.4 gpm for 15 minutes, which translate to 16 gallon units minimum.
  - Stations that come with a bag or cartridge of manufacturer-prepared solution that will last 2 years
  - Stations that need to be filled with tap water and need an additive/preservative added every 2-6 months
- Stations with manufacturer-prepared solutions are the preferred method from both a cost-savings and hygiene standpoint
- Employer **must** purchase a preservative for the tap water models; otherwise, they are required to change the tap water weekly to prevent bacteria build-up
  - Encon Hydrosep (58385) – Change after 60-90 days
  - Eyesaline Concentrate (25929) – Change after 6 months
  - Fendall Defend (53143) – Change after 120 days
  - Guardian Additive (59423) – Change after 120 days

**Plumbed Eye Washes**
- Advantage of not needing to replace/clean gravity-fed units
- Requires weekly activation as part of routine maintenance to prevent bacteria build-up
- Requires some skill to install, you may need to hire a plumber

**Faucet-Mount Eye Washes**
- We carry one unit that is ANSI approved (Bradley) and one unit that is not (Guardian Eye Safe).
- The Speakman SEF1800 Eye Wash System includes a new faucet and will blend the hot/cold water to the perfect temperature. This unit is always in full compliance, even when washing your hands in the sink. This is our best unit.

**Emergency Showers**
- Required when there is a possibility of a corrosive to be deluged on your body, as opposed to a minor splash
- Can be ordered by itself or as a combination eye wash/shower unit. If purchased as a shower only, an eyewash station must be located in the immediate vicinity.

### B. What Can I Do to Prepare for An Eye-Related Emergency?

Prevention is the key to eye safety. The first line of defense is proper eye/face protection devices coupled with equipment guards, emergency controls, and manufacturing procedures.
- Employees must be trained in the location of emergency wash equipment and its proper use
- Equipment must be regularly maintained, including weekly activation of all plumbed units
- Equipment must be inspected at least yearly for compliance with the ANSI standard. Use a test gauge to test water flow.
  - Eyewash Flow Test Devices Conney Item Numbers 158652 & 215005
  - Eyewash & Shower Flow Test Device Conney Item Number 162411

### C. How Do I Set Up an Emergency Response Plan?

Employers should develop a response plan to be used in the event that an accident does occur.
- Focus on how assistance to the injured worker will occur as quickly as possible
- The employer should consider an alarm system to alert personnel and summon assistance if an emergency wash is activated
- An eye/shower station sign should be posted near the station
- The area where the station is located should be well lit

**TIME IS CRITICAL IN EYE INJURIES. PLANS AND TRAINING CAN SAVE EYESITE.**

## 3. Product Reference

A. Additives/Preservatives – For tap water, gravity-fed eye wash stations
B. Personal Eyewash Bottles – A great supplement to have in any plant/construction environment
C. Goggles or Faceshields – Safety glasses are never acceptable chemical splash protection when used alone. Non-vented or indirect vent goggles should be used.