

## **1.0 INTRODUCTION**

This standard describes the requirements that must be met to use, inspect, and maintain emergency eyewash stations and showers. Emergency eyewash stations and showers provide on-the-spot decontamination and allow staff to flush away hazardous substances that can cause injury.

## **2.0 SCOPE**

This standard applies to all areas or tasks where the eyes or skin of any person may be exposed to contamination from hazardous materials.

Emergency eyewash and shower stations are not a substitute for effective controls and personal protective equipment. As a defense against flying solid particles and splashing hazardous liquids, workers shall take the necessary precautions to protect themselves which may include the wearing of eye and face protection and protective clothing.

## **3.0 REFERENCES**

General Regulation 91-191	Sections 11 and 39 (these are the sections of the regulations, not the act)
ANSI Z358.1-2009	American National Standard for Emergency Eyewash and Shower Equipment.

## **4.0 TERMS AND DEFINITIONS**

Emergency shower	A device specifically designed and intended to deliver flushing fluid in sufficient volume to cause that fluid to cascade over the entire body.
Eye wash	A device used to provide fluid to irrigate and flush the eyes.
Flushing fluid	Potable water, preserved water, preserved buffered saline solution or other medically acceptable solution manufactured and labeled in accordance with applicable government regulations.
Hazardous material	Any substance or compound that has the capability of producing adverse effects on the health and safety of humans.
Plumbed	A term used to describe equipment that is connected to a continual source of potable water.
Potable water	Water that is suitable for drinking.
Tepid	A flushing fluid temperature conducive to promoting a minimum 15 minute irrigation period. A suitable range is 16 - 38° C (60 - 100° F).

## 5.0 ROLES AND RESPONSIBILITIES

### 5.1 Employer

- Assess hazards and provide emergency eyewashes and showers as required in accordance with the ANSI standard.
- Ensure emergency eyewashes and showers are well identified through signage.
- Ensure pathways to emergency eyewashes and showers are kept clear of obstructions.
- Ensure all emergency eyewashes and showers are inspected and tested during periodic (at a minimum monthly) workplace inspections and that inspection records are retained. Plumbed emergency eyewashes and showers must be tested at least weekly and activated for a period long enough to verify operation and ensure flushing fluid is available.
- Ensure all emergency eyewashes and showers are maintained as required and that maintenance records are retained.
- Ensure staff who work in areas where the use of an emergency eyewash or shower is possible, are trained on the hazards present in the work area and know how to use the emergency equipment properly.

### 5.2 Employee

- Report any observed deficiencies with emergency eyewashes and showers.
- Understand the hazards in the work area and how to use the emergency equipment as instructed.
- Before commencing work with hazardous materials, verify the location of the emergency equipment and ensure it is unobstructed and available for use.

## 6.0 STANDARD

### 6.1 General:

Where the eyes or skin of any person may risk being exposed to hazardous substances, emergency eyewashes and showers for quick flushing or drenching of the eyes and skin shall be provided within the work area for immediate emergency use.

### 6.2 Use of Certified Equipment

All emergency eyewash and shower equipment shall meet ANSI (American National Standards Institute) Z 358.1 2009 requirements and shall be installed and maintained as required in the standard. Eyewash stations may be either plumbed or self-contained.

Eyewash stations should be designed to deliver flushing fluid to both eyes simultaneously at a volume of not less than 1.5 litres/minute (0.4 gallons/minute) for 15 minutes.

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## **6.3 Equipment Location**

- 6.3.1 Emergency eyewash stations and showers shall be located in accessible areas that require no more than 10 seconds to reach. The equipment shall be located in an area that is free from obstructions.
- 6.3.2 Eyewash stations and showers shall be located with a direct line of travel from the hazard area that is free of obstructions, stairways, and doors. Portable, self-contained emergency eyewashes and showers must be obtained and used as an alternative if permanent ones are not available in the work area and are required. Where this is not feasible, a Job Hazard Assessment shall be done and a deviation may be required.
- 6.3.3 Each eyewash station and shower shall be identified with a highly visible sign. The area around the eyewash station shall be well lit.
- 6.3.4 Dust covers supplied with eyewashes must be left in place. They prevent dust and debris from falling inside the eyewash heads and becoming hazards when the eyewash is used.

## **6.4 Water Supply for Plumbed Equipment**

- 6.4.1 Plumbed equipment shall be supplied with potable water.
- 6.4.2 Plumbed equipment shall have supply valves clearly identified and safeguarded against accidental closure by locks and tags or other effective means.
- 6.4.3 When the water supply to the equipment is unavailable, all work that might require the use of the emergency eyewash or shower shall be discontinued or alternative emergency equipment (portable emergency eyewashes and showers) shall be provided.
- 6.4.4 Plumbed equipment shall be supplied with tepid flushing fluid. Where tepid water would accelerate the injury, advice shall be obtained for an appropriate flushing fluid temperature from Department of Hygiene.
- 6.4.5 Residential grade shower stalls shall not be used as emergency showers as they do not meet the ANSI standard for adequate flow of flushing fluid.

## **6.5 Flushing Solution for Self-Contained Equipment**

Self-contained units filled with potable water shall have the flushing fluid replaced at least weekly.

All other flushing fluid shall be replaced as recommended by the manufacturer. The expiry date for the flushing solution shall be posted on a tag or sticker on the device.

## **6.6 Inspection and Maintenance**

- 6.6.1 Plumbed eyewash stations and showers shall be inspected at minimum monthly and tested at minimum weekly to flush the lines and to verify proper operation.
  - 6.6.2 Self-contained eyewash stations shall be inspected at minimum monthly.
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6.6.3 The equipment shall be kept clean. Any dust covers supplied with eyewashes will be left in place when not in use. They prevent dust and debris from falling inside the eyewash heads and becoming hazards when the eyewash is used.

## **6.7 Personal Eyewash Devices**

Personal eyewash devices, such as eyewash bottles, do not meet the ANSI Standard for emergency eyewashes and are, therefore, intended for support use and not as a replacement for self-contained or plumbed units. These devices may be used to deliver initial first aid while getting the person to a primary unit or as extended aid when transporting a person from the eyewash unit to a medical facility.

## **6.8 Best Practices**

6.8.1 Facilities should consider the use of audible alarms or flashing lights to indicate that the unit is in operation. In remote areas, consideration shall be given to activation alarms in a central dispatch location especially where people may be working alone.

6.8.2 Facilities should also consider the installation of a modesty curtain in emergency showers that will protect the privacy of the user and permit disrobing while the shower unit is in operation. In an emergency, it is imperative that contaminated clothing be removed as quickly as possible.

## **6.9 Use & Reporting**

If an emergency eyewash or shower is required to be used, the event shall be reported to the employee or contractor supervisor according to the incident standard.

## **6.10 First Aid Measures**

All employees who risk exposure to hazardous materials requiring eyewashes or showers according to the SDS shall be instructed in the proper use of emergency eyewash stations and showers.

ANSI Z358.1-2009 does not specify how long the affected body part should be rinsed. It does specify that the equipment installed according to the standard be capable of providing flushing liquid for a minimum of 15 minutes.

However, other references recommend a minimum 20-minute flushing period if the nature of the contaminant is not known. The flushing or rinsing time can be modified if the identity and properties of the chemical are known. For example:

- 5-minutes for non-irritants or mild irritants,
- 15-20 minutes for moderate to severe irritants and chemicals that cause acute toxicity if absorbed through the skin,
- 30 minutes for most corrosives, and
- 60 minutes for strong alkalis (e.g., sodium, potassium or calcium hydroxide).

In all cases, if irritation persists, repeat the flushing procedure. It is important to get medical attention as soon as possible after first aid has been given. A physician familiar

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with procedures for treating chemical contamination of the eyes and body should be consulted.

**6.11 Records**

- Inspection records.
- Maintenance records.
- When the use of an emergency eyewash or shower is required, the incident shall be reported to the employer or contractor supervisor and documented in a Health and Safety Incident Notification (145)e-form

**7.0 Appendix**

N/A

**8.0 Training**

N/A



Director of Total  
Health & Safety

**DOCUMENT APPROVAL/REVISION RECORD**

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New	2019/01/30	New Standard	Ian Case	Nancy Allen Melinda Mallery Shelley Parker Kim Gordon	Robin Condon
01	2022/03/17	Updated Introduction, Terms and Definitions, and Roles and Resp. Clarified inspection and maintenance frequencies. Added best practices	Matt Parks	TH&S	Roland Roy