



VCU

Safety and Risk Management

VCU / Safety Shower Program

I. Introduction/Purpose

Emergency Eye Washes and Safety Showers are critical safety devices in the work environment. Quick access to these devices can greatly reduce the severity of an injury, should a worker experience a chemical or biological splash to the face, eyes, or body.

OSHA has determined that there is no minimum quantity or exposure to injurious corrosive chemicals below which an eyewash is not required and that use of personal protective equipment alone does not negate the need for emergency eyewashes and safety showers to be provided.

The purpose of this program is to establish minimum criteria for placement, performance, testing, labeling and maintenance of emergency eyewash and safety shower in VCU Campus locations.

II. Applicability/Scope

This program applies to all emergency eyewash and safety shower units located in VCU Campus facilities.

III. Definitions

- a. ANSI Z358.1: American National Standard for Emergency Eyewash and Shower Equipment. This standard articulates the minimum performance standards referenced by OSHA and required by VCU
- b. combination unit: An interconnected assembly of emergency equipment supplied by a single source of flushing fluid
- c. drench hose: A supplemental device consisting of a flexible hose connected to a flushing fluid supply and used to provide fluid to irrigate and flush face and body areas
- d. 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
- e. eye/face wash: A device used to provide fluid to irrigate and flush both the face and the eyes simultaneously
- f. eyewash: A device used to provide fluid to irrigate and flush the eyes
- g. hazardous material: Any substance or compound that has the capability of producing adverse effects on the health and safety of humans
- h. OSHA: The Occupational Safety and Health Administration. OSHA creates and enforces federal regulations for employee safety



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- i. Owner Department: The “Owner Department” is a School or Department that owns emergency eyewash or safety shower units and has operational control of work activities in areas with chemical and/or biological hazards.
- j. personal wash: A supplementary device that supports plumbed and/or self-contained units, by delivering immediate flushing fluid to the eyes or body.
- k. tepid: A flushing fluid temperature conducive to promoting a minimum 15-minute irrigation period. A suitable range is 16 - 38° C (60 -100° F).
- l. valve actuator: A device connected to the valve to facilitate its operation.

IV. Roles/Responsibilities

- a. Owner Department is responsible for:
 - i. Performing risk assessment of chemical and biological hazards in the work area
 - ii. Determining if emergency eyewash and/or safety shower equipment is required to accommodate the planned work in the area
 - iii. Ensuring all emergency eyewash and/or safety shower units are compliant with the minimum location requirements and performance standards outlined in this policy
 - iv. Contacting SRM for consultation if unsure
 - v. Contact Facilities Management for maintenance or installation of emergency eyewash and safety shower units when deficiencies are identified
- b. Safety & Risk Management:
 - i. Interprets this policy
 - ii. Performs annual inspections and testing of emergency eyewash and safety shower
 - iii. Contacts Facilities Management for maintenance on emergency eyewash and safety shower when deficiencies are identified
 - iv. Tag units out of service when deficiencies are identified and notify local users and Facilities Management of the failed test
- c. Facilities Management:
 - i. Maintain and repair eyewashes, safety showers and associated equipment, such as piping and valves, as necessary to ensure proper function
 - ii. Provide support and information as necessary for the installation of new or replacement of existing eyewashes and/or safety showers when required



d. End Users Groups:

- i. Inform all members of the group of the location and basic function of the emergency eyewash and/or safety shower
- ii. Ensure appropriate signage for the stations are visible
- iii. Ensure emergency eyewash and safety shower stations are free of obstruction
- iv. Perform and document weekly flushing tests
- v. Contact Facilities Management for maintenance on emergency eyewash and safety shower when deficiencies are identified

V. Placement

a. Emergency Eyewashes are required where the eyes of any person may be exposed to:

Corrosives	Areas where there is a reasonable potential for splashes to the eyes with “injurious corrosive materials”, stations shall be provided for “immediate emergency use” (within 10 feet)	OSHA 1910.51
Hazardous Chemicals	Areas where work with substances and compounds that have the capability of producing adverse effects on the health and safety of humans. stations should be located: <ul style="list-style-type: none"> • Within 10 seconds walking distance of a hazard, which is approximately 55 feet • On the same level as the hazard • The path to it should be as straight as possible and free of obstructions • A door is considered to be an obstruction. Where the hazard is not corrosive, one intervening door can be present so long as it opens in the same direction of travel as the person attempting to reach the eyewash and shower equipment and the door is equipped with a closing mechanism that cannot be locked to impede access to the equipment 	ANSI Z358.1
BSL/ABSL-2 BSL/ABSL-3	Eyewash and shower units are to be made “readily available, easily accessible, and appropriately maintained”	BMBL

- b. Safety Showers are required using the same criteria as above when it is reasonably anticipated that splashes to the body and skin may occur
- c. Supplemental Equipment shall provide immediate flushing to support emergency eyewash and safety shower equipment, but shall not replace them. Drench Hoses and Personal Wash Units are considered supplemental equipment, unless they meet required performance criteria summarized in Section VI of this program and detailed in ANSI 358.1



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- d. Signage shall be highly visible and positioned so the sign is visible within the area served by the equipment and
- e. Lighting. The area around emergency eyewash and safety shower equipment shall be well-lit

VI. Performance

Performance criteria is detailed in ANSI Z358.1, which is referenced by the OSHA regulation(s). Important elements of ANSI Z358.1 performance criteria include, but are not limited to:

- a. Emergency eyewashes must deliver clean tepid water at a minimum of 0.4 gpm for 15 min
- b. Safety Showers must deliver clean tepid water at a minimum of 20 gpm
- c. Activation of the unit must take 1 second or less
- d. Once activated, the control valve must remain open until intentionally closed
- e. Eyewash and face wash units: Nozzles must be positioned between 33-45 inches from the floor. Also, a minimum distance of 6 inches from the nearest obstruction is required
- f. Emergency Showers: The distance of showerhead to the floor must be between 82-96 inches. Actuator height must be no higher than 69 inches from the floor. Also, showers must have a clearance of 48 inches along the side and 30 inches across (creating a surface area of 10 square feet around the shower unit)

VII. Testing

- a. Weekly Testing of emergency eyewash shall be conducted by the End User group having operational control over the emergency eyewash and safety shower equipment. Weekly Testing includes:
 - i. Visual inspection of the unit. Look for leaks or pipe damage and proper placement of protective covers. This should be done prior to testing in order to avoid further damage to the unit and risk of injury to users. Ensure unit is free of any obstructions
 - ii. Activate unit. Ensure that the water flow is continuous, evaluate that the unit can maintain flow for 3 minutes, and is not injurious to the user's eye or face.
 - iii. Valve actuator must activate water flow in one second or less. Valve actuator must stay on unless manually turned off
 - iv. Document test on provided log sheets by entering initials and dates of test. Be sure weekly test logs are easily accessible



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- v. If the emergency unit is not operating to specifications, corrective action must be initiated:
 - 1. Notify your supervisor
 - 2. Tag the unit as “DO NOT USE”
 - 3. The supervisor must notify VCU Facilities Management for repair or replacement
 - b. Annual Testing of emergency eyewash and safety shower shall be conducted by SRM using the standard operating procedure in Appendix A
- VIII. APPX A – Annual EMERGENCY EYEWASH and SAFETY SHOWER Testing SOP