

**INTRODUCTION:****PURPOSE:**

Many work areas at Rowan University, especially laboratories, conduct operations where the eyes or body of employees or students (*and in some cases visitors*) may be exposed to injurious or corrosive materials. Rowan University's policy is to take every precaution to protect its employees against occupational injuries resulting from exposure to these materials.

**APPLICABILITY:**

This guideline is applicable to all work environments that use or have the potential for future use of chemicals which may cause skin or eye damage, infectious material, or when required by regulation.

**GENERAL REQUIREMENTS:**

All eyewash and safety shower equipment, including drench hoses, drench hose-eyewash combination units, and any self-contained/mobile emergency drench devices at any Rowan University facility shall conform to and be installed in accordance with the requirements listed in ANSI/ISEA Z358.1 (2014/*most recent revision*), *American National Standard for Emergency Eyewash and Shower Equipment*, developed with the International Safety Equipment Association (ISEA).

In general, eyewash and safety shower equipment shall be installed within 10 seconds walking time from the location of a hazard (approximately 55 feet). The equipment must be installed on the same level as the hazard (i.e. accessing the equipment should not require going up or down stairs or ramps). The path of travel from the hazard to the equipment should be free of obstructions and as straight as possible. Devices must be installed in a location and configuration so that they are protected from contamination and do not present additional hazards during use. For example, the location shall not expose the user to electrical hazards, sharp edges, or protruding objects. Note that for eyewashes and eye/face washes, the nozzles shall be installed at least 6 inches from the wall or nearest obstruction and between 33 and 53 inches in height above the surface/floor on which the user stands. For showers, the valve actuator shall be within 69 inches of the surface on which the user stands and the top of the dispersed water column between 82 and 96 inches with the center of the spray at least 16 inches from any obstruction.

All eyewash and safety shower equipment shall deliver tepid water as specified by ANSI Z358.1. A delivery of a tepid flushing fluid is defined as water with a temperature range between 16 to 38 degrees Celsius/60 to 100 degrees Fahrenheit.

The specific devices described in this policy are required in all newly constructed, modified, or renovated areas. All eyewash and safety shower equipment must be in well-lit area and have highly visible sign.

Existing areas with similar hazards to those mentioned in this policy may use existing quick-drench equipment unless Rowan University's Environmental Health and Safety (EHS) determines that the existing equipment is not adequate and provides a written recommendation for upgraded equipment.

## **SPECIAL REQUIREMENTS FOR LABORATORIES:**

### **DRENCH HOSE/EYE WASH COMBINATION UNITS**

Drench hose-eyewash combination units shall be installed in newly constructed laboratories as well as modified, upgraded, or renovated laboratories. These units shall comply with the requirements for eye/face wash equipment in ANSI Z358.1. At a minimum, one of these units shall be installed in each laboratory room having a sink. When room areas are larger than 500 square feet, additional units should be added as recommended by EHS. These devices will typically be installed at the back or to the side of the sink, and oriented so that the eyewash function can, once activated, be used without requiring the use of the operator's hands. Note that if the countertop is deep, installing at the back will likely place it too far away for some users to flush their eyes/face with it stationary (unless it has a pull-down or swing-away design).

### **EMERGENCY EYEWASH AND SHOWER EQUIPMENT**

Combination drench hose-eyewash units will meet the requirements for most laboratories; however, there may be some circumstances that require safety showers or eyewash-safety shower combination units. Typically these circumstances will involve the use of large quantities of corrosive materials or methylene chloride or formaldehyde solutions (>1%). (For the purposes of this policy, "large" quantities will mean any container larger than 4 liters and/or any 1 gallon or 4 liter container that is easily breakable (e.g., glass without a protective PVC coating).) When such equipment is necessary, they shall be installed in accessible locations that require no more than 10 seconds to reach. Preferably, these units should be located in hallways where they are accessible to many laboratory employees, thus reducing the number of shower units to be installed.

## **SPECIAL REQUIREMENTS FOR NON-LABORATORIES:**

There are many instances where areas other than laboratories require the installation of emergency drench hose, eyewash, and/or shower equipment. In most cases, the recommended device is a drench hose-eyewash combination unit that meets all eye/face wash requirements of ANSI Z358.1. In some cases, depending on the quantities of chemicals used, a shower or eyewash-shower unit may be required. In situations where a plumbed device is not feasible (i.e., outdoors), a suitable mobile device (meeting requirements of ANSI Z358.1) shall be used.

The following areas require a suitable emergency drench device:

- Mechanical areas in which water treatment chemicals are handled.
- Areas where employees perform high-level disinfection of medical devices.
- Areas where employees handle solutions containing more than 0.1% methylene chloride or 0.1% formaldehyde.
- Areas where employees may be splashed with corrosive chemicals or chemicals that are highly toxic by skin absorption.
- Battery charging areas (e.g. Forklifts) for acid-containing batteries.
- Chemical waste handling or storage areas.

*For other circumstances similar to those identified above, contact EHS for further evaluation. at: [EHS@Rowan.edu](mailto:EHS@Rowan.edu) or via phone #: 856.256.5105*

## **VOLUNTARY INSTALLATION OF EQUIPMENT:**

In the case that departments wish to install emergency eyewash and shower equipment when not specifically required, such installations are permissible under the following guidelines:

- The department must contact the **EHS** to ensure suitability of the equipment and the planned location. ***Failure to contact EHS may result in the purchase of incorrect equipment or set ups which can result in increased delays and costs.***
- The department must adhere to all requirements under Inspection and Maintenance.

## **INSPECTION AND MAINTENANCE:**

All eyewashes, emergency showers, and combination devices shall be inspected and maintained in accordance with manufacturer's instructions. All equipment shall be on a routine maintenance schedule as follows:

- ***Weekly*** Eyewashes (and other devices that may be used to flush the eyes) shall be actuated weekly by affected **department personnel** within the work area to flush and verify proper operation. This activity will be documented (date of inspection and initials of inspector) on or near the device (on a tag or nearby check sheet) or through an electronic system. See **Appendix A** at the end of this document to see an example of such a tag inspection. A documentation sheet that can be used is also provided. **Note: Some units, because of their configuration, may not allow good drainage or capture of water during testing. For devices where no plumbed drain is accessible and the water cannot be collected in a container such as a bucket or drain pan, users must arrange for a quarterly alternate check to performed by EHS and/or Facilities or must request that their maintenance provider reconfigure the device to allow for weekly flushing by the user. Send requests to: [EHS@Rowan.edu](mailto:EHS@Rowan.edu)**
- ***Quarterly*** Eyewashes and drench hoses that cannot be flushed weekly by the user (because of a configuration not conducive to capturing water) must be actuated quarterly by EHS and/or Facilities to flush and verify proper operation. This activity will be documented per standard practice of the responsible maintenance group.
- ***Annually*** All emergency eyewashes, drench hoses, and safety showers shall be inspected annually by ***EHS and/or Facilities*** to assure conformance with ANSI Z358.1 requirements. This activity will be documented per standard practice of the responsible group.

### **Recommended Procedure for Eyewash/Drench Hose Checks:**

#### ***Weekly (or with quarterly exception) Check:***

1. Ensure that the path to the eyewash/drench hose is not obstructed.
2. Verify that nozzle caps are in place to prevent contamination and that the nozzles, nozzle caps, and bowl/sink are clean and sanitary. Place a catch pan or bucket under the unit if a plumbed drain is not available.
3. Actuate valve to fully open position. Water must flow within 1 second.

4. Verify that nozzle caps come off when the eyewash or drench hose is activated.
5. Verify that water continues to flow until manually turned off and can be used without requiring the use of the operator's hands.
6. Look at the flow pattern. It should provide a gentle, controlled and non-injurious flow. If a dual- stream eyewash, both streams should rise to equal height in a pattern that will flush both eyes simultaneously.
7. Continue to flush until water is clear.
8. Put nozzle caps back in place.
9. Document the inspection by use of inspection tag or document sheet (*see Appendix A*)
10. Report problems via the University's work order system or by contacting EHS at: [EHS@Rowan.edu](mailto:EHS@Rowan.edu) or via phone #: **856.256.5105**.

**Annual Inspection/Flow Test (EHS/Facilities to conduct in addition to weekly check requirements)**

1. Check that the device is in a well-lit area and identified by a highly visible sign.
2. Perform a flow test. This may be done with a flow meter or by timing the flow into a suitable container. Ensure that fluid flow is not less than 1.5 liters per minute (0.4 gallons per minute) for eyewashes or 11.4 liters per minute (3.0 gallons per minute) for eyewash-drench hose combination units.
3. Inspect all components for corrosion or other damage. Check all visible piping connections for leaks.
4. Using a temperature gauge or other means, determine that the water temperature range is between 16 to 38 degrees Celsius/60 to 100 degrees Fahrenheit.
5. If unit is functioning correctly, document the annual check.
6. Document the inspection by use of inspection tag or document sheet (*see Appendix A*)
7. Report problems via the University's work order system or by contacting EHS at: [EHS@Rowan.edu](mailto:EHS@Rowan.edu) or via phone #: **856.256.5105**.

**Recommended Procedure for Safety Shower Checks:**

**Annual Inspection/Flow Test (by EHS or Facilities)**

1. Ensure that the path to the shower is not obstructed.
2. Check that the device is in a well-lit area and identified by a highly visible sign.
3. Inspect all components for corrosion or other damage. Check piping connections for leaks.
4. Place a drum or other container under the unit (unless a serviceable drain that can handle 20 gallons per minute (**gpm**) is available and water will not harm building

materials).

5. Actuate valve to fully open position. Water must flow within 1 second.
6. Verify that water continues to flow until manually turned off.
7. Look at the flow pattern. It should provide a gentle non-injurious flow, and the flow should be substantially dispersed. Specifically, check that spray pattern has a minimum diameter of 50.8 cm (20 in.) at 152.4 cm (60 in.) above the surface on which the user stands, and that the center of the spray pattern is located at least 40.6 cm (16 in.) from any obstruction.
8. Continue to flush until water is clear.
9. Perform a flow test. This may be done with a flow meter or by timing the flow into a suitable container. Ensure that fluid flow is not less than 75.7 liters per minute (20.0 gallons per minute) for showers.
10. Using a temperature gauge or other means, determine that the water is temperature range between 16 to 38 degrees Celsius/60 to 100 degrees Fahrenheit.
11. EHS will work with Facilities to correct any problems found. Contact EHS at [EHS@Rowan.edu](mailto:EHS@Rowan.edu) with questions.
12. If unit is functioning correctly, document the annual check following standard practice of the responsible maintenance group. Note the date of inspection and initials of inspector on or near the device (on a tag or nearby check sheet) or through an electronic system. See **Appendix A** for examples of documentation tags and sheets

## **APPENDIX A:**

### **Eyewash or Safety Shower Inspection Documentation**

**EMERGENCY EYEWASH STATION  
WEEKLY INSPECTION SHEET**

Flush emergency eyewash station weekly and check for the following:

- Is the water clear?
- Are the jets working properly?
- Is the area clear of obstructions?
- Is the emergency eyewash leaking?

If you notice a problem, submit a work order request.

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WEEK	INITIALS	WEEK	INITIALS	WEEK	INITIALS	WEEK	INITIALS
1		27		1		27	
2		28		2		28	
3		29		3		29	
4		30		4		30	
5		31		5		31	
6		32		6		32	
7		33		7		33	
8		34		8		34	
9		35		9		35	
10		36		10		36	
11		37		11		37	
12		38		12		38	
13		39		13		39	
14		40		14		40	
15		41		15		41	
16		42		16		42	
17		43		17		43	
18		44		18		44	
19		45		19		45	
20		46		20		46	
21		47		21		47	
22		48		22		48	
23		49		23		49	
24		50		24		50	
25		51		25		51	
26		52		26		52	

**QUESTIONS ?** Please contact Environmental Health and Safety (EHS) at [EHS@Rowan.edu](mailto:EHS@Rowan.edu)

## Inspection Tags for Eyewashes & Safety Showers:

Note: Tags can be ordered through numerous lab/safety supply or safety sign vendors (e.g. Fisher, Grainger, Seton, etc.).

- If you would like to be supplied with tags for your area/department email EHS at: [EHS@Rowan.edu](mailto:EHS@Rowan.edu)
- **NOTE:** Please provide your contact information and how many tags you are requesting

**EMERGENCY SHOWER & EYE WASH TEST RECORD**

INSPECT THIS UNIT CAREFULLY  
BEFORE SIGNING INSPECTION RECORD

DATE	BY	DATE	BY

**DO NOT REMOVE THIS TAG**

U LINE 1-800-299-5510, uline.com

