SCHOOLS INSURANCE PROGRAM FOR EMPLOYEES

EMERGENCY EYEWASH & SHOWER EQUIPMENT

Date: June 7, 2012

Legal Reference: Title 8, Section 5162 and 5185 and ANSI Z358.1

PURPOSE: The purpose of this guidance document is to identify the criteria for locating, designing, maintaining, and utilizing emergency eyewash and shower equipment in order to reduce accidental eye and skin exposure to harmful substances. Information provided by this document will also assist member districts with achieving and maintaining compliance with the emergency eyewash and shower equipment program as described under Cal/OSHA and American National Standards Institute (ANSI).

Emergency eyewash and shower equipment were first used in 1928. Since then, the use of chemicals and other harmful products has grown rapidly in the workplace, increasing the need for this type of safety equipment. Each day, approximately 2,000 workers suffer eye injuries while performing job related duties requiring medical attention. An emergency eyewash/shower equipment is to provide immediate decontamination and allows workers, students or visitors to flush hazardous substances from their skin or eyes that can cause serious injuries. Exposed workers must have access to an emergency eyewash or shower in the first 10 seconds (walking time) or 55 feet after an exposure or they may suffer permanent eye or tissue damage. Water hoses, sink faucets or bathroom showers are not acceptable eyewash facilities.

As part of their work-related tasks, certain school district employees routinely perform work with a variety of substances. Some of these substances may pose a threat to employee health and safety because they can cause corrosion, severe irritation or permanent tissue damage or be toxic by absorption to the eyes or skin. In order to prevent or minimize injuries to eyes or skin, Cal/OSHA requires employers to assure properly located, designed, and functioning emergency eyewash, shower and/or drench hose equipment are available in, or nearby, areas where these hazardous substances are present. However, this equipment is not a substitute for primary protective devices (including eye and face protection and protective clothing) or for safe procedures for handling hazardous materials.

LOCATIONS: The need for emergency eyewash or shower station is based on the properties of the chemicals that workers use and the tasks that they do in the workplace. A job hazard analysis can provide an evaluation of the potential hazards of the job and the work areas. The selection of protection -- emergency shower, eyewash or both -- should match the hazard. In some jobs or work areas, the effect of a hazard may be limited to the workers face and eyes. Therefore, an eyewash station may be the appropriate device for worker protection. In other situations the worker may risk part or full body contact with dangerous substances. In these areas, an emergency shower may be more appropriate.

A combination unit has the ability to flush any part of the body or all of the body. It is the most protective device and should be used wherever possible. This unit is also appropriate in work areas where detailed information about the hazards is lacking, or where complex, hazardous operations involve many chemicals with different properties. A combination unit is useful in situations where there are difficulties handling a worker who may not be able to follow directions because of intense pain or shock from an injury.

Emergency eyewash/shower equipment shall be located in all hazardous materials handling areas including, but not limited to:

- Laboratories with chemicals present
- Pesticide storage and mixing facilities
- Battery charging facilities
- Designated hazardous material storage facilities
If both an eyewash and a shower are needed, they shall be located so that both can be used at the same time by one person. Material Safety Data Sheets (MSDS) can also help determine what flushing system is appropriate for your hazards. The area of the eyewash/shower equipment shall be maintained free of items which obstruct their use.

**BATTERY CHARGING AND STORAGE:** Battery charging installations shall be located in areas designated for that purpose. Employees assigned to work with storage batteries shall be instructed in emergency procedures such as dealing with accidental acid spills. *Facilities for quick drenching or flushing of the eyes and body shall be provided unless the storage batteries are equipped with explosion resistant or flame arrestor type vents or located in a compartment or other location such as to preclude employee exposure.*

**TRAINING:** All workers require instruction in the proper use and location of emergency eyewash/showers before an emergency occurs. It should never be assumed that everyone in the workplace is aware of the proper procedures to follow or how to use the equipment. All employees who may be exposed to an eye injury that may require flushing should be instructed in the proper use of emergency eyewash/showers. Other important information includes knowing:

- The location of all units;
- How to properly activate the various systems;
- How to correctly inspect, test, and maintain the various systems;
- How to properly hold eyelids open and roll eyeballs to thoroughly flush contaminants;
- How to assist a fellow employee in using the eyewash/shower and contact emergency medical services;
- What to do after the initial flushing is complete, and
- The procedures for removing contact lenses.

Also, consider conducting and participating in a hands-on drill to test the readiness in your workplace.

**HOW TO USE EYEWASH/SHOWER:** If you have an emergency, notify a coworker or student right away so they can help you walk to the eyewash/shower, activate 911 and notify a supervisor. Activate the eyewash and/or shower and hold your eyelids open while the water flows over the eyeballs. Roll your eyes all around so the water touches all of the surfaces and gets under the lids and wash both eyes even if you think you only contaminated one. Remove contact lenses during the flushing (consider wearing glasses instead of contact lenses when working with corrosive chemicals). Contacts may hold chemicals against the eye and cause further damage. Don’t try to dislodge objects from your eye or rub your eyes. Continue flushing your eyes for at least 15 minutes or until emergency responders arrive and instruct you otherwise. If your clothing is contaminated, remove your clothing after the shower has been activated and immediately wash off all parts of your body. Eyewash/showers are first aid only and you should seek medical attention for every eye injury or chemical burn.

**INSPECTIONS, TESTING AND MAINTENANCE:** Emergency eyewash/showers often go unused for long periods of time. As a result, they often contain debris and stagnant or rusty water. To remedy this situation, eyewash/showers require periodic testing and maintenance be performed to ensure that access to the unit is constantly maintained and that the unit is clean, sanitary, and fully functional at all times. Plumbed eyewash/shower equipment shall be activated at least monthly to flush the line and to verify proper operation and inspected annually. All other units shall be maintained in accordance with the manufacturer’s instructions.

Some of the more common problems to look for during routine inspections and testing are:

- Clogged, missing, or broken nozzles;
- Inoperable activating valve or one that does not operate properly;
- High or low water pressure;
- Self-contained or portable units that have low water level or have been tampered with;
- Nozzle dust covers are damaged or missing;
- Worn or loose parts and connections;
- Corrosion;
- Water temperature;
• Leaks;
• Units that are blocked by stored equipment;
• Poor access;
• Items hung on the shower and items in the eyewash bowl;
• Missing signage, inspection tag or records, and
• Any other damage.

According to ANSI eyewash/showers should also receive a complete inspection and testing annually to ensure they continue to meet performance and flow requirements. Below are just a few of the requirements.

• Visually inspecting the piping for leaks;
• Opening the valve fully and verifying that it stays open without the use of hands;
• Measuring the shower head height, and
• Measuring the diameter of the spray pattern with the valve wide open. The diameter should be at least 20 inches at 60 inches above the ground, and Ensuring that the flow rate is three gallons in 9 seconds or less.

Records of all inspections, testing and maintenance are required to be kept for each station as indicated by the ANSI standard. Water resistant inspection tags should be affixed to all units to document monthly activation dates, comments, and the tester initials.

**WATER TEMPERATURE:** The water temperature delivered by emergency equipment should be “tepid” (i.e. moderately warm or lukewarm). However, where it is possible that a chemical reaction might be accelerated by warm water, a medical professional should be consulted to determine what the optimum water temperature would be. The delivery of tepid water to emergency equipment may raise complicated engineering issues. At a minimum, it generally involves providing both hot and cold water to the unit and then installing a blending valve to mix the water to the desired temperature. Test the water temperature annually using an industrial thermometer to ensure it is tepid (60-100F), which encourages an injured party to complete the full 15-minute flush during an emergency.

**SIGNAGE:** Identify eyewash/shower location with highly visible sign. Area around shower shall be well lighted.
# Schools Insurance Program for Employees

## Emergency Eyewash or Shower Inspection Form

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<th>District</th>
<th>Site</th>
<th>Room Number</th>
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<th>Date</th>
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Schools Insurance Program for Employees (SIPE)

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