

Safe Science: Be Protected!

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EMERGENCY EYEWASH AND SHOWERS: ARE THEY NEEDED?

Often inquiries are made relative to the requirements for emergency eyewash and/or showers in school science laboratories. The regulatory agency for employees in the states (Occupational Safety and Health Administration or OSHA) addresses this issue in their Code of Federal Regulations # 1910.151 Subpart K—Medical and First Aid. Under part (c) – “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 within the work area for immediate emergency use.” Given that this statement is relatively generic, OSHA has provided several letters of interpretation. The bottom line is emergency eyewash and shower safety equipment are required, and must meet the specifications of ANSI 358.1 (American National Standard for Emergency Eyewash and Shower Equipment, 1998 revision).

WHO NEEDS THEM?

Most secondary level (grades 6-12) school science laboratories require engineering controls, such as eyewash and showers. This is dictated by direct contact or exposure to hazardous chemical products, which can harm eyes or other body surface areas. Whether it is exposure to sodium hydroxide in Chemistry, sulfuric battery acid in Physics, or hydrochloric acid in Biology, all will require safety equipment to minimize injuries to the eyes.

The standard addresses engineering controls protect the employee’s eyes or other body parts from chemical exposure implications. This category includes emergency showers and eyewash equipment, hand-held drench hoses or combination shower and eyewash equipment.

WHERE SHOULD THEY BE PLACED?

Location, location, location is everything with eyewash and shower equipment. Government regulatory agencies will vary somewhat from region to region. For example, ANSI in the states requires that the stations must be no longer than a maximum of 10 seconds to be reached by the injured employee. A clear path to the eyewash or shower station is a requirement. Desks, chairs, and other obstacles need to be clear of the path. Signage is also required. Highly visible signs from all area of the laboratory to be serviced by the safety equipment need to be installed.

HOW LONG SHOULD THE FLUSHING TAKE PLACE?

The water provided by the eyewash or shower station should be clean and tepid in temperature. Eyes should be placed in the stream of water in such a way as to provide the greatest area of exposure. The fingers may be needed to spread open the eyelids. In the case of the shower, contaminated clothing often exacerbates skin complications and, therefore, needs to be removed. The flushing must take place for a period of at least 15 minutes. Towels or sheets should be kept nearby for the purpose of covering up the person after clothing is removed.

WHERE DOES ALL THE CONTAMINATED WATER GO?

Emergency eyewash and showers may or may not be required to have drains, though they are often desired. Worry about the clean up after the person is out of harm's way. If drains are used, consideration needs to be given to the destination of the contaminated water and its impact on the environment. If the water's destination is a water treatment plant, the operator needs to be warned immediately. Depending on the nature of the contamination would also prompt warning local authorities if septic waste is the final destination. Water on the laboratory floor can be cleaned up, but first consult proper references or authorities as to how best dispose of it.

FINAL THOUGHTS!

Although eyewash and showers should be inspected monthly and activated weekly for correct operation, these are minimum expectations. It is more practical to have the laboratory supervisor test the system each day of laboratory use involving hazardous chemicals. This is a more responsible approach for the science laboratory professional.

LIVE LONG AND PROSPER SAFELY!