

## Recommendations for the Care and Maintenance of High Intensity Metal Halide and Mercury Lighting in Schools

For the past several years, schools have occasionally reported instances of skin burns and eye irritation, which have been traced to broken high intensity metal halide or mercury light bulbs used in many school sports facilities and assembly halls. Some schools may be using these bulbs in lighting fixtures that do not fully enclose the bulbs, which expose the bulbs to damage from balls or other flying objects. If the light bulbs are struck so that the outer glass of the bulb breaks, they may continue to operate, and become sources of ultraviolet radiation. This radiation, which is similar to the UV radiation from strong sunlight, can cause skin burns and eye inflammation.

To minimize these incidents, the following procedures are recommended:

- If the outer glass bulb breaks – which is obvious from falling glass, or the presence of glass on the floor – **IMMEDIATELY TURN OFF THE FIXTURE**. Do not turn it on again until the bulb is replaced by a competent maintenance person wearing suitable protective equipment, such as eye protection and work gloves.
- Lighting fixtures that fully enclose the bulbs and have a lens of glass or plastic material are recommended for any lighting installation that is at risk from damage from flying objects. These fixtures, in conjunction with regular bulbs, are the most efficient, and cost less to maintain.
- Wire guards on open fixtures, or fixtures with damaged lenses, do not give protection against UV radiation from a broken bulb.
- If an installation does not have fully enclosed fixtures, a self-extinguishing bulb can be ordered through electrical suppliers. The bulbs include the letter “T” in their model number. However, these bulbs are not available in all sizes, give less light, and generally cost more than regular bulbs.
- The use of self-extinguishing bulbs does not prevent bulb breakage; the bulbs simply turn off automatically after the outer glass of the bulb is broken.
- School supervisors should make sure that those responsible for the maintenance of these lighting systems fully understand the federally-mandated and other caution notices that manufacturers print on the packages of these light bulbs.
- Report all incidents that involve injury associated with the use of metal halide or mercury bulbs to the light bulb manufacturer, who in turn is obligated to report to the Food and Drug Administration. It is important to retain any broken bulb to assist in positive identification of the manufacturer.

**Additional information about “best practices” for metal halide lighting systems, including a question-and-answer section, is available at [www.nema.org](http://www.nema.org), search under “metal halide”.**

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Approved by NEMA Lamp Section, January 23, 2003. Member companies include Philips Lighting, OSRAM SYLVANIA, GE Lighting, Venture Lighting/ADLT, EYE Lighting International, USHIO America, Panasonic Lighting, and Light Sources, Inc.