SISC BULLETIN
SELF-INSURED SCHOOLS of CALIFORNIA
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TO: District Superintendents
SISC II Member Districts

FROM: Catherine Wilson Jones, CSP
Director, Safety and Loss Control

SUBJECT: Laboratory/Science Class Safety

A recent explosion in a Kern County High School sent 22 students to the emergency room for medical care. Although none of the students were seriously hurt, the incident could have easily caused significant injury.

This incident emphasizes the importance of having strict safety and loss control procedures regarding all laboratory/science classes. The following information is offered to assist districts in assessing the safety of their lab/science classes and provides some basic recommendations for establishing safe programs.

1. Review the Cal-OSHA regulation for Occupational Exposure to Hazardous Chemicals in Laboratories (Title 8, Section 5191). The regulation covers such items as standard operating procedures for work involving hazardous materials, control measures to reduce exposures, provisions for information and training, and designation of a Chemical Hygiene Officer—all of which must be addressed in a Chemical Hygiene Plan. Flinn Scientific has a model chemical hygiene plan that provides an excellent start for developing a site/district specific plan. A copy of the plan can be obtained from Flinn Scientific or from your SISC Safety and Loss Control representative.

2. Demonstration shields should be used whenever a demonstration is conducted in front of a class as a barrier between the demonstration and the class. Such shields may be purchased through lab catalogs and/or suppliers. Such shields should be used whenever there is the slightest possibility that a container, its fragments, or its contents could be propelled toward students.

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3. Obtain and provide eye protection for all students pursuant to the provisions of Education Code Section 32030 and 32031, which states that eye protection must be used ". . . at any time at which the individual is engaged in, or observing, an activity or the use of hazardous substances likely to cause injury to the eyes." Circumstances that require the use of eye protection include "Working with hot liquids or solids or with chemicals which are flammable, toxic, corrosive to living tissues, irritating strongly sensitizing, radioactive, or which generate pressure through heat, decomposition, or other means."

4. Ensure all containers are labeled pursuant to the Hazard Communication Standard (Title 8, Section 5194). Labeling requirements also apply to secondary containers, which may be used in a class for lab exercises or demonstrations. The contents of each container must be identified along with the appropriate hazard warning. The only exception would be for containers used only by one individual whose contents are used completely before the end of the class period.

5. Discontinue the practice of "attention getting" demonstrations that involve an uncontrollable release of energy, or heat, or cause an unpredictable, unmeasurable reaction. Such demonstrations cannot be adequately controlled, therefore, the risks outweigh the educational value.

6. Develop written standard operating procedures for every lab demonstration and exercise that identify the procedures to follow, risks/hazards associated with the procedure, and safety controls. Select experiments that come from known, reputable sources and that contain a safety analysis of the procedure. Every lab exercise and demonstration conducted must have a written procedure. Teachers who deviate from the written procedures without authorization should be disciplined.

The above information is intended to help the district assess the safety of its science classes and to prevent future incidents. The information is not intended to serve as a comprehensive list of science safety issues, but is intended to provide minimum guidance on key issues. For more information or assistance, please contact your SISC Safety and Loss Control Specialist.

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