George wasn’t feeling quite himself that evening. His three-year old son had come down with a nasty case of the flu and George was a little concerned. In fact, he himself seemed to be coming down with a particularly bad cold. As he prepared to clean the biology building’s 4th floor lavatory, his mind began to wander. He picked up a bottle of an unidentified liquid and mixed it with an ammonia-based glass cleaner. Minutes later, George began to have trouble breathing, developed a severe headache, and a burning sensation in his lungs. The unidentified liquid was not water as George had suspected.

The scenario described above helps explain why it is so crucial that employees recognize and understand the identity and hazards associated with the chemicals that they may be exposed to when working. The U.S. Department of Labor estimates that more than 32 million workers are exposed to potentially hazardous chemicals and exposure to such chemicals can contribute to many health effects including heart ailments and kidney and lung damage. The use of such chemicals also has the potential to cause fires, explosions, and other serious accidents. Further, the problem is often exacerbated if employees are not familiar with workplace chemicals and may be intensified when dangerous chemicals are mixed. Little did George know that the chemical in the unlabeled bottle above was, in fact, bleach, a substance which, when mixed with an ammonia-based cleaner, causes toxic fumes that can have devastating health effects.

It is readily acknowledged that employees have both a need and a right to know such information. It is for this precise reason that the Occupational Safety and Health Administration (OSHA) affirmatively enforces the Hazard Communication Standard (29 CFR 1910.1200). Ultimately, OSHA’s Hazard Communication Standard is designed to provide employees with the critical information that they need so that they are better positioned to take steps to reduce exposures, substitute less hazardous materials, and establish safe work practices.

The OSHA Hazard Communication Standard

Under the Standard, which specifically applies to those chemicals that present either a physical or health hazard, including many janitorial and maintenance chemical products, employees receive crucial chemical-specific hazard information through the use of material safety data sheets (MSDS), container labels, and comprehensive training programs. Each hazard communication method is briefly described below.

- **Material Safety Data Sheets (MSDS)** represent the primary source of hazard information and an up-to-date copy must be readily accessible to all workers. They should contain all pertinent physical and health hazard information, exposure limits, precautions for safe handling and use, and applicable control measures, including personal protective equipment requirements. (29 CFR 1910.1200(g))

- **Container Labeling** is also an effective method of communicating crucial hazard information. Intended to be an immediate visual reminder of the hazards of potentially dangerous chemical products, labels are required by the Standard to include all appropriate physical and health hazard warnings. (29 CFR 1910.1200(f))

- **Effective employee training** is also crucial. Employers are required to provide employees with information and training regarding the chemicals that they will work with and to which they may be exposed, as well as information on measures that employees can take to protect themselves, including appropriate work practices, emergency procedures, and personal protective equipment. Training must be provided prior to exposure to a hazardous chemical and must be provided whenever a new hazard is introduced. (29 CFR 1910.1200(h))

It is important to note that it is not enough to make hazard information available. Rather, employers need to make sure that employees understand all pertinent hazard information employers must, therefore, take into account language barriers, illiteracy concerns, and other factors and take all action necessary to ensure that employees gain an understanding of the...
hazards associated with those chemicals with which they will be working. For example, although material safety data sheets are required to be in English, they may be translated into other languages and made available to assist non-English speaking employees.

Further, as mentioned, MSDSs must be maintained so that they are “readily accessible” to employees at all times during a work shift. OSHA does allow for the electronic means of making MSDSs available, including computers with printers, CD-ROMs, etc., provided that there are no barriers to “immediate” access. Employers therefore, must ensure that electronic devices are reliable and accessible, that workers are trained in the use of such devices and understand how to retrieve the hazard information, and that there is an adequate backup system that affords access to MSDSs in the event of an emergency, such as a power outage or equipment failure.

While, educational facilities can generally rely on their suppliers to draft and make available compliant MSDSs (manufacturers and distributors have an affirmative duty to provide MSDSs to their customers) and label primary product containers with the required information, it is most often the responsibility of the facility to ensure that all secondary or portable containers are labeled with the necessary hazard information. Specifically, all secondary or portable (in-house) containers into which hazardous chemicals are transferred must be labeled with the following information:

1) the identify of the hazardous chemical; and
2) appropriate hazard warnings or, in the alternative, “words, pictures, symbols, or a combination thereof, which provide at least general information regarding the hazards of the chemical” (i.e., HMIS ratings).

The key is to ensure that an employee can pick up a bottle and immediately understand the potential hazards.

There is, however, a general exception to the secondary container-labeling rule. Such containers do not need to be labeled in accordance with the OSHA standard as long as the person who performs the transfer of the hazardous chemical into the container is the person who is intended to use the transferred chemical.

Finally, employers are required to develop and implement a written hazard communication program that describes how the employer will meet the MSDS, labeling and employee training requirements (29 CFR 1910.1200(e)). The written program must be readily accessible to employees and should include a comprehensive list of all hazardous chemicals known to be present in the facility. OSHA stresses that it does not need to be particularly lengthy or complicated so long as it includes the required information.

Enforcement

Hazard communication violations are among the most frequently cited and can carry substantial penalties.

OSHA has reported that the Hazard Communication Standard was the second most-violated standard from October 2004 through August 2005. More specifically, published 2004 fiscal year enforcement figures indicate that the failure to have a written hazard communication program was the most frequently cited violation (2,326 violations), with the failure to train employees on new chemical hazards ranked #3 (1,047 total violations), failure to train employees with regards to hazardous chemicals, in general, ranked #9 (768 violations), and the failure to make material safety data sheets available as required ranked #12 (708 violations).

Unfortunately, the Administration does not calculate average per-violation penalties because of the multitude of factors that enter the equation, but fines have been known to reach six digits. Further, while federal OSHA enforcement understandably garners the most attention,
it is important to remember that state agencies that oversee occupational safety and health can also penalize facilities for non-compliance.

State Right-to-Know Laws
The federal OSHA Standard is not the only hazard communication law that educational facilities may need to be concerned with. Those facilities located in New Jersey, New York City, Pennsylvania, and California also must ensure compliance with the state or local jurisdiction’s hazardous chemical right-to-know law. All four local laws require that container labels include hazard communication information in addition to what is required under the federal OSHA Standard, although the primary obligation to provide such information falls on the product manufacturer or distributor.

Your Responsibilities
Manufacturers, distributors, and users of hazardous chemicals all have certain obligations under the Standard. While, as mentioned, it is the primary responsibility of the chemical manufacturer or distributor to determine the hazards of each chemical product, obtain or develop and make available up-to-date MSDSs, and prepare product labels, employers also play a key role. Most notably, it falls on the shoulders of the educational facilities manager, as an employer to:
✓ Identify and list all chemicals that may be found in their workplace.
✓ Obtain MSDSs for hazardous products and ensure that they are readily accessible.
✓ Make sure that all containers are labeled as required by the Standard and by any state right-to-know laws that may apply, including affirmatively labeling all secondary or portable containers into which hazardous chemicals are transferred.
✓ Identify those employees who must be trained in accordance with the standard and conduct the necessary training.

✓ Develop and implement a written hazard communication program.
(Not: a written program is not required for laboratories.)

Future Prevention
The OSHA Hazard Communication Standard is designed to assist in the prevention of work-related injuries and illnesses by making crucial hazard information available to those individuals who may be exposed to potentially dangerous chemicals. Ultimately, it is the responsibility of the educational facility manager as an employer to ensure that employees are provided with such hazard information. Make sure that you have up-to-date copies of all material safety data sheets. Conduct the required hazard communication training. And, please, make sure that all labels are labeled with physical and chemical hazard information. George is sure to thank you.

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