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**ICCFA MAGAZINE
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O C C U P A T I O N A L S A F E T Y : P A R T 4 O F 7

Violations of OSHA Hazard Communication and Formaldehyde regulations constitute nearly one-third of all OSHA citations in the funeral service and cremation business. Controlling the hazards it poses is an important part of any safety program.

Handling formaldehyde hazards

This is the fourth in a series of seven articles on building a safety program for funeral homes, crematories and cemeteries. In the first article, we discussed the basic components of every safety program: hazard assessment, hazard control and training. The second article detailed requirements for personal protective equipment (PPE) and respirators. The third focused on building a safety program for hazard communication. This article details what you need to do to meet OSHA requirements regarding formaldehyde.

Hazard communication

As discussed in our last article, the Hazard Communication Standard is the OSHA regulation that requires evaluation and communication to employees of all chemical hazards in the workplace.

Each employee who works with or around hazardous chemicals must receive information about those chemicals through a comprehensive training program. Chemical manufacturers are required to evaluate product hazards and to alert customers to those hazards through container labels, Material Safety Data Sheets (MSDS) and customer support.

The law is designed to ensure that employers receive the information they need in order to design and implement adequate protection programs and educate their employees. Informed employees can more effectively participate in and support the protective measures instituted in their workplaces. Hazard communication programs are also commonly referred to as “Right-to-Know” programs.

The OSHA Formaldehyde Standard

The OSHA Formaldehyde Standard was written to protect employees who come into contact with formaldehyde. The Formaldehyde Standard is in addition to the provisions of the Hazard Communication Standard covering exposures to all hazardous chemicals or substances. The fact that formaldehyde is the subject of its own federal regulation should emphasize to you the need to protect employees from exposure.

The hazards of formaldehyde. Formaldehyde

has its own OSHA standard because it is so toxic. Formaldehyde is a sensitizing agent that can cause an immune system response upon initial exposure. It is also a human carcinogen linked to nasal cancer and lung cancer.

Formaldehyde can be inhaled as a gas or vapor, or absorbed through the skin as a liquid. Acute exposure is highly irritating to the eyes, nose and throat, and can make you cough and wheeze. Subsequent exposure may cause severe allergic reactions of the skin, eyes and respiratory tract.

Airborne formaldehyde can irritate the respiratory tract; the severity of that irritation worsens as concentrations increase. Ingestion of formaldehyde can be fatal, and long-term exposure to low levels on the skin can cause irritation such as dermatitis and itching. Concentrations of 100 parts formaldehyde per million parts air are immediately dangerous to health and/or life.

Embalmers are exposed to formaldehyde at concentrations averaging up to 9 parts per million (ppm) during the embalming process. Short-term exposures at levels up to 5 ppm cause eye, nose and throat irritation. At levels from 10 to 20 ppm, formaldehyde exposure causes coughing, chest tightness and irregular heartbeat.

Exposures from 50 to 100 ppm cause fluid on the lungs, followed by death. Long-term exposure to low levels of formaldehyde may cause respiratory difficulty, eczema and sensitization.

Your formaldehyde protection program.

Employers are required by law to take preventive measures to protect employees from formaldehyde exposure and must develop a formaldehyde protection program. Some of the components of a protection program must be in writing, including, at a minimum:

- how labels and other forms of warning are used at your facility regarding formaldehyde hazards;
- how the hazards of formaldehyde are communicated to employees; and
- the specifics of your employee formaldehyde safety training program.

Engineering controls. As the first step, engi-

neering controls must be employed to the maximum extent practical in order to eliminate or reduce employee exposures to acceptable levels. Engineering controls include enclosing and/or providing appropriate ventilation systems for operations. Approved laboratory hoods or local exhaust ventilation can be used for all jobs involving the use of formaldehyde in embalming or other preparation.

Monitoring of exposure limits. Limits for employee exposure must be determined and air monitoring or formal exposure assessment must be conducted. Monitoring is required unless it can be objectively documented that the operation cannot result in concentrations above the OSHA action level (0.5 ppm). Previously evaluated operations must be assessed if there is any change in procedure that may result in increased exposure.

Personal protective equipment (PPE). When engineering and work practice controls cannot reduce and maintain employee exposure to formaldehyde at or below the personal exposure limit, you must provide your employees with the proper PPE. It is the employer's responsibility to select, provide and maintain this equipment and to ensure that employees use it.

Where the potential for skin and eye contact with formaldehyde exists, impervious clothing, gloves, aprons and chemical splash goggles must be worn. Showers and eyewash stations must be provided if splashing is likely. Where airborne concentrations exceed allowable limits, respirators must be used. Respirator cartridges must be changed on a scheduled basis to prevent "bleed through."

Training. In addition to the applicable training requirements for Hazard Communication, personnel working with formaldehyde must receive annual chemical-specific information and training on their job assignment. Retraining is needed whenever a new exposure to formaldehyde is introduced to the work area.

This training must ensure employees' understanding of the hazards of formaldehyde and the control measures chosen. Information must be provided about the signs/symptoms related to the health effects of formaldehyde and how to properly report them to the employer. This helps to guarantee the success of medical surveillance and removal programs.

Medical surveillance. Medical surveil-

lance must be provided for personnel who are exposed to airborne formaldehyde at concentrations at or above the action level, for those who develop signs and symptoms of overexposure and for any employee exposed to formaldehyde in an emergency. The employer must maintain medical records as required.

Employees who suffer significant adverse effects from formaldehyde exposure must be reassigned to jobs with significantly less or no exposure until their condition improves or they are determined unable to return to their previous work tasks. This is difficult for embalmers, who must work with formaldehyde as a part of their jobs.

Formaldehyde storage and waste disposal. Formaldehyde products must be stored in a cool, well ventilated area, and in accordance with any additional requirements listed on the MSDS. Label all mixtures or solutions composed of greater than 0.1 percent formaldehyde and material capable of releasing formaldehyde into the air at concentrations reaching or exceeding 0.1 ppm.

For all materials capable of releasing formaldehyde at levels above 0.5 ppm during normal use, the label must contain the words "potential cancer hazard." Waste formaldehyde products must be stored in a labeled hazardous waste container for proper disposal, or made available for recycling, if practical.

Look for more tips on developing safety programs for the following topics in upcoming issues of ICCFA Magazine:

- Bloodborne pathogens;
- Ergonomics (manual lifting and working in awkward postures); and
- Machine guarding (retort, lawnmower, maintenance equipment).

As discussed in our first article, developing a safety program may seem like a daunting and expensive task for your business; but it is essential and it is money well-spent. Studies have shown a \$4 to \$6 return for every dollar invested in safety and health.

This continuing article series will help you with the basics of how to put together the required safety programs for your business. Remember, a successful safety program is key to having not only healthy and competent workers, but also a healthy, successful business. □