



Reactive Chemicals

Training Objectives

This training session focuses on the hazards of reactive chemicals and how to control them. There are numerous types of reactive chemicals employees may encounter in the workplace, and each of those chemicals may pose different reactivity hazards. This training session will cover the hazards of various types of reactive chemicals, the types of chemical reactions that may occur, exposure controls employees will need to use to protect themselves, and how to handle emergencies involving reactive chemicals. After completing this training session, trainees will be able to:

- Identify the hazards associated with reactive chemicals.
- Recognize the various types of reactive chemicals they may encounter in the workplace.
- Recall where to find information about hazards, exposure controls, and first-aid measures associated with reactive chemicals.
- Recall what to do in an emergency involving reactive chemicals.

Rationale for Training

Chemical reactions can be extremely dangerous if they aren't thoroughly understood and controlled. When intentional or unintentional reactions get out of control, they can result in fires, explosions, or releases of toxic fumes or gases. Your employees could be injured—or even killed—as a result of an uncontrolled chemical reaction. Your facility and equipment could be damaged in an explosion or a fire. It's therefore essential that employees who work with or around reactive chemicals know how to safely manage these hazardous materials to prevent accidents.

Regulatory Overview

29 Code of Federal Regulations (CFR) 1910.1200

Although the Occupational Safety and Health Administration (OSHA) doesn't have specific regulations regarding reactive chemicals, the safe use of all chemicals in the workplace, including reactives, is regulated by OSHA's Hazard Communication (HazCom) Standard (29 CFR 1910.1200).

The HazCom Standard requires employers to:

- Have a written HazCom Program that explains how chemical safety and health information will be communicated to employees.
- Prepare a list of all the hazardous chemicals, including reactives, used or stored in your facility.
- Provide a safety data sheet (SDS) for each hazardous reactive chemical in the workplace, and make sure SDSs are readily available to employees on all shifts.
- Train employees on OSHA's HazCom Standard, reactive chemical hazards and precautions, and the safety and health information provided in SDSs and on container labels.



Training Requirements

29 CFR 1910.1200(h)

As with any other type of hazardous chemical, employers must train employees to work safely with reactive chemicals.

Your training program must contain, at a minimum, the following elements:

- What reactive chemicals are and the different types of reactive chemicals present in the workplace;
- The specific areas and operations of the facility where reactive chemicals are present;
- The hazards posed by the reactive chemicals employees may be exposed to;
- Methods used to detect the presence of reactive chemicals in the workplace (e.g., air monitoring);
- The location(s) and availability of the required list(s) of hazardous chemicals, including reactives, in the workplace and their corresponding SDSs;
- Measures in place to protect employees from reactive chemical hazards, including specific procedures, work practices, and personal protective equipment (PPE);
- Emergency response procedures; *and*
- Other relevant aspects of your organization's HazCom Program.

Trainer qualifications. The person conducting the training must be knowledgeable in the subject matter covered by the elements contained in the training program and as that information relates specifically to the workplace the training will address.

Audience. All employees who work with or around reactive chemicals.

Training frequency. Employees must be trained when they're hired or assigned to a job that exposes them to reactive chemicals and each time a new reactive chemical they may be exposed to is introduced into the workplace.

Delivery method and format. Trainers may use hands-on demonstration, computer-based or online training, classroom training, and any other method that leads to comprehension and understanding on the part of trainees. There should be an opportunity for interactive questions and answers with a person knowledgeable about the organization's safety policies and practices.

Trainee evaluation and approval. Trainees' comprehension can be assessed using performance-based methods (observed behavior), by written or oral test, or using any other effective method or combination of methods.

Recordkeeping. Training records should be kept that show when the training was held, what was covered, who administered the training, the trainer's qualifications, and which employees attended.



State requirements. While many states have adopted the federal HazCom Standard requirements, there are some states and municipalities that have adopted their own, stricter regulations for communicating the hazards of chemicals in the workplace—including reactives—to employees. Make sure to check the regulations for your state for any additional rules concerning HazCom and employee exposure to reactive chemicals.

Supporting Documents

Download the following documents to use with the training presentation:

- Download the Speaker's Notes to help deliver the presentation. The Speaker's Notes contain the suggested narration to be used in conjunction with the PowerPoint® slides to deliver a regulatorily compliant training presentation. Both the Speaker's Notes and the PowerPoint are fully customizable to allow a trainer to add site-specific information and images.
- Distribute the Handout and Exercises before or during the session to reinforce the training.
- Give trainees the Quiz, and place the results in each trainee's personnel file.
- Distribute the Certificate to successful trainees as proof of completion of training (optional).
- Distribute the Evaluation Form to employees, and collect the completed forms (optional).
- File one copy of the Attendee Sign-In Sheet and the Training Record for each employee.