



Coffee Break Training - Fire Protection Series

Hazardous Materials: Corrosives in Retail Settings

No. FP-2011-47 November 22, 2011

Learning Objective: The student shall be able to identify the requirements for corrosive storage and display in retail occupancies.

Walk the aisles of any home improvement or cleaning products store, and you will find a variety of items that qualify as hazardous materials. These drain cleaners, for example, are corrosive and contain up to 10 percent potassium hydroxide (lye) and sodium hypochlorite (household bleach).

Corrosives can be dangerous if not handled correctly. According to the Material Safety Data Sheet (MSDS), the following dangers exist with the illustrated product.

- Skin contact may produce burns. Skin inflammation is characterized by itching, scaling, or reddening.
- Corrosive to eyes. Direct contact with the eyes can cause irreversible damage including blindness.
- May be fatal if swallowed. Ingestion may cause erosion of mucous membranes and perforation of the esophagus and stomach.
- Inhalation of the spray mist may produce severe irritation of the respiratory tract, characterized by coughing, choking, or shortness of breath. Overexposure by inhalation may cause respiratory irritation.



These over-the-counter products contain hazard chemical constituents that are corrosives.

Corrosives qualify as health hazard materials in the model building and fire codes. When the materials are nonflammable or noncombustible liquids, special provisions are allowed for the amounts that can be stored and displayed in mercantile occupancies.

For mercantile indoor storage, the maximum allowable quantity in a single control area is 975 gallons (3,690 L). This amount may be doubled when the building is protected by an approved automatic sprinkler system or the materials are stored in approved hazardous materials storage cabinets. The amount per control area may be doubled once more—to a maximum of 3,900 gallons (14,763 L)—if the building is protected by sprinklers and the materials are stored in approved cabinets. Storage and display is limited to 20 gallons/ft² (0.50 L/m²).

The corrosives may not be displayed more than 6 ft (1,829 mm), nor stored more than 8 ft (2,438 mm) above the floor. Individual containers less than 5 gallons (19 L) must be stored or displayed on pallets, racks, or shelves. Individual liquid containers may not exceed 10 gallons (38 L) capacity. Aisles 4 ft (1,219 mm) in width must be maintained on three sides of the storage or display.

For additional information, refer to *International Fire Code*[®], Chapter 27, or *National Fire Protection Association (NFPA)*[®] 1, *Uniform Fire Code*[®], Chapter 60.



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