



# CRYO-STORAGE AND TECHNOLOGIES (CST)

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## SafetyAlert-42

### Epoxy Flooring Systems

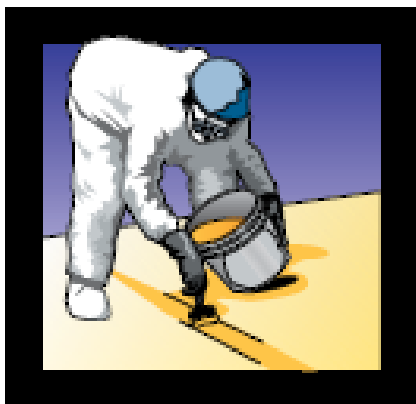
#### General

All personnel involved in the handling and use of these materials must be thoroughly familiar with the hazards associated with the products as described in the Material Safety Data Sheet (MSDS). In addition, the application of epoxy coatings requires that applicators be familiar with each of the steps required in the application and the necessary safety precautions for each step.

#### Safe Handling Practices

##### STEP 1. FLOOR PREPARATION

It is essential that the floor be properly prepared in order to ensure that the epoxy flooring material adheres to the surface. This can be accomplished by either abrasive or chemical methods.



##### Safety and Health Concerns

- Exposure to dusts, acid and alkaline mists, and/or solvents
- Flammability of solvents

##### Protective Measures

- Use adequate ventilation
- Use respirators
- Wear protective clothing, rubber gloves
- Wear protective eyewear

##### STEP 2. FLOOR PRIMING

Epoxy primers are typically low-viscosity binder systems that penetrate concrete to form a sealer coat. They are applied by squeegee, roller, or spray. Primers contain epoxy resin, reactive diluents, and curing agents.



##### Safety and Health Concerns

- Exposure to epoxy materials during component blending and application
- Skin exposure by direct contact with priming components
- Inhalation exposure by breathing diluents, solvent, or curing agent vapors
- Flammable or combustible epoxy system components

##### Protective Measures

- Use adequate ventilation
- Use respirators
- Wear disposable coveralls, rubber gloves, and boots
- Wear protective eyewear



Responsible Care  
Good Chemistry  
at Work

### STEP 3. BLENDING

Flooring systems are generally shipped as three-component blends (the resin, curing agent, and aggregate). Blending is conducted at the time of application due to the limited pot-life of the product. Component blending can range from hand-mixing in a 5-gallon pail to power-mixing in an epoxy mixer for larger applications.



#### *Safety and Health Concerns*

- Skin exposure by direct contact with the components
- Inhalation of the curing agents (amines) in self-leveling formulations
- Skin and inhalation exposure when thinning epoxy resins with diluents
- Exposure to dust when blending aggregate and/or pigments
- Flammable or combustible epoxy system components

#### *Protective Measures*

- Use adequate ventilation
- Wear disposable coveralls, rubber gloves, and boots
- Wear the appropriate respiratory protection
  - Wear organic vapor respirators if using systems with volatile components
  - Dust/mist filters for aggregate and/or pigments
  - Combination respirators (organic vapors and dust/mist)
- Wear protective eyewear

### STEP 4. APPLICATION

Once the flooring system has been blended, it is transported by bucket or cart for application. Certain self-leveling formulations are pumped and transferred by hose.



#### *Safety and Health Concerns*

- Skin exposure from drips and splashes during container filling and epoxy system transport
- Inhalation exposure because of the large surface area on which the mixture is applied
- Flammable or combustible epoxy systems

#### *Protective Measures*

- Use adequate ventilation
- Wear organic vapor or air-supplied respirators if using systems with volatile components
- Wear disposable coveralls, rubber gloves, and boots
- Wear protective eyewear

### STEP 5. FINISHING

Self-leveling systems are spread with rollers or squeegees. Trowelable systems are frequently spread with a hand trowel or for larger applications, with a screed box. Trowelable systems are often finished to a smooth surface with a power trowel.



#### *Safety and Health Concerns*

- Skin exposure from drips and splashes while spreading the floor system
- Inhalation exposure from systems containing volatile components
- Flammable or combustible epoxy systems

#### *Protective Measures*

- Use adequate ventilation
- Wear organic vapor or air-supplied respirators if using systems with volatile components
- Wear disposable coveralls, rubber gloves, and boots
- Wear protective eyewear

## STEP 6. CLEANUP

When the job is complete, tools and equipment must be cleaned. Epoxy must also be removed from worker's skin.



### *Safety and Health Concerns*

- Inhalation of solvents while cleaning equipment
- Skin exposure to epoxy materials
- Skin exposure to solvents (**use solvents to clean equipment, not skin**)
- Exposure from contaminated clothing
- Eating, drinking, or smoking without cleanup of hands and face
- Flammability of solvents

### *Protective Measures*

- Use adequate ventilation
- Wear the appropriate protective clothing and respiratory protection while cleaning with solvents
- Wear protective eyewear
- Remove protective equipment before entering lunch or break rooms
- Replace contaminated clothing at breaks
- Clean and/or dispose of contaminated clothing properly
- Use industrial skin cleaners to remove epoxy from skin
- Practice good personal hygiene throughout the day followed by a shower at the end of the work shift

**Remember: Always read the MSDS before using a chemical.**

### **Information Sources**

- Compressed Gas Association  
1725 Jefferson Davis Highway, Suite 1004  
Arlington, VA 22202-4102  
Phone: 1-703-412-0900
- National Fire Protection Association  
1 Batterymarch Park, P.O. Box 9101  
Quincy, MA 02269-9101  
Phone: 1-800-344-3555

## **Emergency Response Telephone Numbers**

### **USA**

#### **CHEMTRAC**

1-800-424-9300 (Toll Free in the U.S., Canada, and U.S. Virgin Islands)  
703-527-3887 for calls originating elsewhere (Collect calls are accepted)

#### **CHEM-TEL, INC.**

1-800-255-3924 (Toll Free in the U.S., Canada, and U.S. Virgin Islands)  
813-248-0585 for calls originating elsewhere (Collect calls are accepted)

#### **INFOTRAC**

1-800-535-5053 (Toll Free in the U.S., Canada, and U.S. Virgin Islands)  
352-323-3500 for calls originating elsewhere (Collect calls are accepted)

#### **3E COMPANY**

1-800-451-8346 (Toll Free in the U.S., Canada, and U.S. Virgin Islands)  
760-602-8703 for calls originating elsewhere (Collect calls are accepted)

#### **NATIONAL RESPONSE CENTER (NRC)**

Call NRC (24 Hours)

1-800-424-8802 (Toll Free in the U.S., Canada, and U.S. Virgin Islands)  
202-267-2675 in the District of Columbia

#### **MILITARY SHIPMENTS**

703-697-0218 Explosives/Ammunition Incidents (Collect calls accepted)  
1-800-851-8061 All other dangerous goods incidents

#### **NATIONWIDE POISON CONTROL CENTER (United States Only)**

1-800-222-1222 (Toll Free in the U.S.)

### **CANADA**

#### **CANUTECH**

613-996-6666 (Collect calls are accepted)  
\*666 Cellular (In Canada only)

Visit Web Site: [www.cstusa.biz](http://www.cstusa.biz) for further information

or

Call 410-982-6585

or

Ask your local sales representative