

# Material Safety Data Sheet

## Freeman 690 Clear Epoxy Laminating Hardener

Date of Preparation: January 24, 2007

Revision:

### Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** Freeman 690 Clear Epoxy Laminating Hardener

**Chemical Family:** Amine

**CAS Number:** N/A

**Other Designations:** N/A

**General Use:** Epoxy Curing Agent

**Manufacturer:** Freeman Manufacturing and Supply Company, 1101 Moore Road, Avon, OH 44011,  
Phone (440)934-1902, FAX (440)934-7200, Hours of Operation 8-5, Emergency Phone Number 800-424-9300.

**HMIS**

**H** 2

**F** 1

**R** 0

**PPE**†

†Sec. 8

### ☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Irritant

### Section 2 - Composition / Information on Ingredients

**Ingredient Name**

Polyamine Adduct

**CAS Number**

Proprietary

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Polyamine Adduct	none estab.	none estab.	none estab.	none estab.

### Section 3 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance and Odor:** Amber, amine odor

**Odor Threshold:** N/A

**Vapor Pressure:** <1 mm Hg at 20 °C

**Vapor Density (Air=1):** N/A

**Specific Gravity (H<sub>2</sub>O=1, at 4 °C):** 1.01

**pH:** N/A

**Water Solubility:** Moderate

**Boiling Point:** >500°F°

**Freezing/Melting Point:** N/A

**Viscosity:** N/A

**% Solid by weight:** 100%

**% Volatile:** N/A

**Evaporation Rate:** <0.01

### Section 4 - Fire-Fighting Measures

**Flash Point:** 264 °F (240°C)

**Flash Point Method:** CC

**Burning Rate:** N/A

**Autoignition Temperature:** N/A

**LEL:** N/E

**UEL:** N/E

**Flammability Classification:** N/A

**Extinguishing Media:** Water, fog, foam, dry chemical, CO<sub>2</sub>.

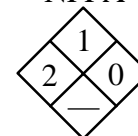
**Unusual Fire or Explosion Hazards:** Container areas exposed to intense heat or flame should be cooled with water to prevent pressure build-up and/or weakening of container structure.

**Hazardous Combustion Products:** N/A

**Fire-Fighting Instructions:** Do not enter confined fire space without full protective gear including a positive pressure, self-contained, NIOSH approved breathing apparatus. Cool fire exposed container with water. Do not release runoff from fire control methods to sewers or waterways.

**Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

NFPA



### Section 5 - Stability and Reactivity

**Stability:** Freeman 690 Clear Epoxy Laminating Hardener is stable at room temperature in closed containers under normal storage and handling conditions.

**Polymerization:** Hazardous polymerization cannot occur. Avoid mixing resin and hardener in uncontrollable quantities.

**Chemical Incompatibilities:** Incompatible with strong oxidizing agents, strong acids and bases, secondary aliphatic amines and mercaptans.

**Conditions to Avoid:** Avoid high temperatures, open flames and unscheduled contact with curing agents.

**Hazardous Decomposition Products:** Thermal oxidative decomposition of Freeman 690 Clear Epoxy Laminating Hardener can produce carbon dioxide, carbon monoxide, by products may include oxides of nitrogen when burned.

## Section 6 - Health Hazard Information

### Potential Health Effects

**Primary Entry Routes:** Inhalation and skin

**Target Organs:** N/A

#### Signs and Symptoms

**Inhalation:** Vapor is irritating to the upper respiratory system and mucous membranes.

**Eye:** Product can cause severe eye irritation, swelling and/or chemical burn. Contact lenses should not be worn when working with this product.

**Skin:** Skin contact may result in irritation or chemical burn.

**Ingestion:** Liquid causes damage to mucous membrane if swallowed.

**Carcinogenicity:** IARC, NTP, and OSHA do not list any component as carcinogenic.

**Medical Conditions Aggravated by Long-Term Exposure:** N/A

**Chronic Effects:**

### Emergency and First Aid Procedures

**Inhalation:** Remove victim to fresh air.

**Eye Contact:** Flush eyes with generous amounts of water for at least 15 minutes. Get medical attention immediately.

**Skin Contact:** Immediately wash skin with soap and water. Wash contaminated clothing before reuse.

**Ingestion:** If swallowed do not induce vomiting. Give large amounts of water or milk if available. Call a physician. Treatment based on judgment of the physician in response to reactions of the patient.

*After first aid, get appropriate in-plant, paramedic, or community medical support.*

**Note to Physicians:** N/A

**Special Precautions/Procedures:** N/A

## Section 7 - Spill, Leak, and Disposal Procedures

**Precautions:** Store at ambient temperatures in well ventilated area. Avoid sparks, open flames and extreme heat. Store separately from amine curing agents. Protect open flames and extreme heat. Store separately from epoxy resins. Protect containers from physical damage. Container, even those that have been emptied can contain product residue. Handle in accordance with good industrial practices. Avoid prolonged or repeated contact with skin. Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminate clothing before use.

**Spill/Leak Procedures:** Use cautious judgment when cleaning spills.

**Small Spills:** May be collected with absorbent material, such as clay or sand.

**Large Spills:** Should be diked and contained with absorbent materials. Flush area with water spray to remove residue. Dispose of flush legally.

**Containment:** For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

**Disposal:** Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

**Disposal Regulatory Requirements:** N/A

**Container Cleaning and Disposal:** N/A

**Ecological Information:** N/A

#### EPA Regulations:

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261.): Not classified

CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ), lb (kg)

SARA 311/312 Codes:

SARA Toxic Chemical (40 CFR 372.65): Not listed

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

#### OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

OSHA Specifically Regulated Substance (29CFR 1910.)

#### State Regulations:

May contain trace amounts of triethylenetetraamine (CAS # 112-24-3) which is on the Pennsylvania and New Jersey Right to Know lists

## Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:** N/A

**Ventilation:** Use only with adequate ventilation. Local exhaust is recommended. General mechanical can be used as a backup. Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

**Administrative Controls:** N/A

**Respiratory Protection:** Wear NIOSH approved respiratory protection where exposure limits are exceeded or in the absence of proper environmental control. Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.

**Protective Clothing/Equipment:** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles with side shields, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

**Safety Stations:** Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

**Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

## Section 9 - Special Precautions and Comments

**Handling Precautions:**

**Storage Requirements:**

### DOT Transportation Data (49 CFR 172.101):

**Shipping Name:** Liquid Plastic, N.O. I.

**Shipping Symbols:**

**Hazard Class:** Not Regulated

**ID No.:**

**Packing Group:**

**Label:**

**Special Provisions (172.102):**

**Packaging**

**Authorizations**

**a) Exceptions:**

**b) Non-bulk Packaging:**

**c) Bulk Packaging:**

**Quantity Limitations**

**a) Passenger, Aircraft, or Railcar:**

**b) Cargo Aircraft Only:**

**Vessel Stowage Requirements**

**a) Vessel Stowage:**

**b) Other:**

**Prepared By:**

**Revision Notes:**

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