

**FOR CHEMICAL
EMERGENCY**
Call Chem-Tel
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MATERIAL SAFETY DATA SHEET

FIVE STAR PRODUCTS, INC.

750 Commerce Drive
Fairfield, CT 06825
203-336-7900



EMERGENCY TELEPHONE NO. 1-(800) 255-3924

Issue Date: 12/20/08 Supercedes: 7/20/04

SECTION I - Product Identification: FIVE STAR® FLUID EPOXY RESIN/COMPONENT A

SECTION II - Hazardous Ingredients/Identify Information

<u>Components:</u>	<u>C.A.S. No.:</u>	<u>OSHA PEL:</u>	<u>ACGIH TLV:</u>	<u>Other Limits:</u>
Bisphenol A Diglycidyl Ether Resin	25068-38-6	N/A	N/A	N/A
C8 and C10 Alkyl Glycidyl Ethers	68609-96-1	N/A	N/A	N/A
Silicon Dioxide, Crystalline Silica, Silica Sand SiO ₂	C.A.S. No. 14808-60-7			

OSHA PEL (Permissible Exposure Limit): Exposure to airborne crystalline silica shall not exceed an 8-hour time-weighted limit as stated in MSHA Standards, Subpart D, Section 56.5001 on air quality specifically "Silica: Crystalline: Quartz (respirable) PEL - TWA = 0.1 mg/m³ and 29 CFR 1910.1000 Table Z-1-A, Air Contaminants, specifically: Crystalline Quartz (Respirable) 10 mg/m³ / %SiO₂+2

ACGIH TLV (Threshold Limit Value): Crystalline Quartz TLV-TWA = 0.05 mg/m³ (Respirable Dust). See Threshold Limit Value and Biological Exposure Indices for 1991-1992. American Conference of Governmental Industrial Hygienists.

Other Limits Recommended: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration = 0.05 mg/m³ (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour week.

SARA Sections 13 Listed Ingredients: Not a hazardous waste under RCRA (40 CFR 261) DOT Shipping--Not

Regulated UN #: None DOT

Hazard Class: None HMIS: Health = 2 Fire = 1 Reactivity = 0 Personal Protection = E

SECTION III: - Physical/Chemical Characteristics

<u>Boiling Point</u> (°F):	280° F	<u>Specific Gravity</u> (H ₂ O = 1):	1.09
<u>Vapor Pressure</u> (mm Hg.):	N/A	<u>Melting Point</u> (°F):	N/A
<u>Vapor Density</u> : (AIR = 1):	N/A	<u>Evaporation Rate</u> :	N/A
		(Butyl Acetate = 1)	
<u>Solubility in Water</u> : Insoluble		<u>Appearance and Odor</u> :	Tan

SECTION IV - Fire and Explosion Hazard Data

Flash Point: 250° F. Seta closed cup. Flammable Limits: Class 3B, LEL: N/A, UEL: N/A. Extinguishing Media: Foam, CO₂, Dry Chemical Special Fire Fighting Procedures: Fire-fighters should wear self-contained breathing apparatus to avoid inhalation of smoke and vapors.

Unusual Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

SECTION V - Reactivity Data

Stability: Unstable: () Stable: (X)

Conditions to Avoid: Amine compounds under uncontrolled conditions. Incompatibility (Materials to Avoid): Strong oxidizing agents. Hazardous Decomposition or Byproducts:

CO, CO₂, smoke, toxic vapors. Hazardous Polymerization: May occur: () Will not occur: (X)

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SECTION VI - Health Hazard Data

Routes of Entry: **Inhalation:** Yes. **Skin:** Yes. **Ingestion:** Yes. **Health Hazards (Acute and Chronic):** Oral LD50 (RAT) > 5,000 MG/KG, **Dermal LD50 (RABBIT)** > 6,000 MG/KG, Health hazards can occur from excessive inhalation of silica dust, otherwise nontoxic. Crystalline silica in the lung can produce a pneumoconiosis, commonly called silicosis, which is a chronic, slowly developing disease. Total dust may cause irritation of eyes and respiratory system. **Skin Irritation (RABBIT)** Moderate Irritation, **Eye Irritation (RABBIT)** Moderate Irritation, **Sensitization** May cause sensitization, **Overexposure Effects** Irritation, sensitization and dermatitis, **Carcinogenicity:** NTP? Yes. "Known to be a human carcinogen." **IARC Monographs?** Yes. **OSHA Regulated?** No. IARC states there is "sufficient evidence" for the carcinogenicity of inhaled crystalline silica to humans. IARC Class 2 **SIGNS AND SYMPTOMS OF EXPOSURE:** **Inhalation:** May cause nasal irritation, damage to the central nervous system, depression or lung injury. Symptoms are dyspnea--caused by many lung scars that develop from the silica dust - pain in the chest, decreased vital capacity and cough. **Eye Contact:** Mild to moderate irritation, possible minor temporary corneal injury. **Skin Contact:** Mild irritation, may be a skin sensitizer. **Skin Absorption:** Not likely to be absorbed in toxic amounts.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Sensitization, lung problems. Chronic lung scarring leads to a progressive massive fibrosis that is often accompanied by increased susceptibility to pulmonary tuberculosis and other respiratory infections. NIOSH (1976) warns of increased risk of impaired health due to a combination of smoking and silica dust exposure.

EMERGENCY AND FIRST AID PROCEDURES:

Remove patient from area. **Eyes:** Immediately flush eyes with water for at least 15 minutes. **Call a physician.** **Skin:** Promptly wash with mild soap and water. **Ingestion:** If conscious, give large quantities of water. Induce vomiting. **Call a physician.** **Inhalation:** Remove to fresh air. Give oxygen if breathing is difficult. **Call a physician.** **Other:** Promptly remove wet, contaminated clothing. Wash before reuse.

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SECTION VII - Precautions for Safe Handling and Use

Steps To Be Taken in Case Material is Released or Spilled: Ventilate area. Absorb spill with suitable absorbent material and place into a closed container. For large spills, dike area and pump into closed container. Prevent this material from entering waterways. Wear protective equipment during cleanup. **Waste Disposal Method:** At this time, this material or its containers are not considered hazardous wastes as defined under the Federal RCRA Regulations (40 CFR 261) if discarded. Care should be taken to ensure that the material or its containers are disposed of in an approved facility in accordance with current Federal, state and local regulation. For further information, contact your state or local waste agency, the United States Environmental Protection Agency's RCRA hotline (1-800-424-9346) or (202-382-3000). **Precautions To Be Taken in Handling and Storing:** Wear protective clothing, eye protection and gloves. **Other Precautions:** None.

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SECTION VIII - Control Measures

Respiratory Protection: Should be worn to avoid breathing spray mist and heated vapors. (MSA organic) **Ventilation:** **Local Exhaust:** Local exhaust and general ventilation recommended. **Mechanical (General):** As needed. **Special:** None. **Other:** None. **Protective Gloves:** Chemical-resistant plastic or rubber. **Eye Protection:** Chemical goggles or full face mask. **Other Protective Clothing or Equipment:** Wear protective equipment. **Work/Hygienic Practices:** Avoid skin contact. Practice good hygiene. Do not let contaminated clothing contact skin. If after material is cured, a sanding operation is undertaken, a respirator program consistent with the Standards of the American National Standards Institute (ANSI) Z88.2-1969, the Occupational Safety and Health Administration (OSHA) 29 CFR Part 1910.134 and the Mine Safety and Health Administration 30 CFR Part 56, must be instituted.

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Issue Date: 12/20/08 Supersedes: 7/20/04

SECTION I - Product Identification: FIVE STAR® FLUID EPOXY HARDENER /COMPONENT B

SECTION II - Hazardous Ingredients/Identify Information

Components:	C.A.S. No.:	OSHA PEL:	ACGIH TLV:	Other Limits:
1,3-Benzenedimethanamine	1477-55-0	0.1 mg/m ³	N/E	None
Diethylenetriamine	111-40-0	1 mg/m ³	N/E	None
Bisphenol A	80-05-7	N/E	N/E	N/E

HMS: Health Rating = 3 Flammability = 1 Reactivity = 0 Personal Protection = E

SECTION III: - Physical/Chemical Characteristics

Physical Form	Mobile Liquid	pH	Alkaline
Boiling Point (°F):	473°F(245°C)	Specific Gravity (H ₂ O = 1):	1.00
Vapor Pressure (mm Hg.):	15 @ 298°F (148°C)	Melting Point (°F):	N/A
Vapor Density: (AIR = 1):	Heavier than air	Evaporation Rate:	<1
Solubility in Water:	Dispersible	(Butyl Acetate = 1) Appearance and Odor: Ammoniacal straw yellow liquid.	

SECTION IV - Fire and Explosion Hazard Data

Flash Point: 273°F(134°C), Flash point method: COC. Flammable Limits: LEL: N/A. UEL: N/A. Extinguishing Media: Dry chemical, water fog, regular foam. Special Fire Fighting Procedures: Face shield, butyl rubber boots, gloves, body suit with a self-contained breathing apparatus. Unusual Fire and Explosion Hazards: May generate toxic or irritating combustion products-carbon monoxide gas, nitrogen oxide gases, and/or ammonia gases.

SECTION V - Reactivity Data

Stability: Unstable: () Stable: (X)

Conditions to Avoid: Avoid heat, flame and contact with strong oxidizing agents. Incompatibility (Materials to Avoid): Mineral acids (i.e., sulfuric, phosphoric), organic acids (i.e., acetic, citric), oxidizing agents (i.e., perchlorates, nitrates), sodium or calcium hypochlorite. Reaction with peroxides may result in violent decomposition of peroxides, possibly creating an explosion. CAUTION: N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.

Hazardous Decomposition or Byproducts: May generate toxic or irritating combustion products-carbon monoxide, nitrogen oxide, and ammonia gases. Do not use with sodium nitrite or other nitrosating agents in formulations containing this product. Cancer-causing nitrosamines could be formed.

Hazardous Polymerization: May occur: () Will not occur: (X)

SECTION VI - Health Hazard Data

Routes of Entry: Inhalation: Yes. Skin: Yes. Ingestion: Yes. Health Hazards (Acute and Chronic): Severe eye irritant. Severe skin irritant. Severe respiratory tract irritant. May cause skin and respiratory sensitization. Corrosive liquid. Toxic (ANSI Z129.1, 1988) by ingestion and skin absorption. Carcinogenicity: NTP? No. IARC Monographs? No. OSHA Regulated? No. TLV AND SOURCE: None established by ACGIH or OSHA Acute Effects of Overexposure: Swallowing: Diarrhea, vomiting and bleeding of the gastro-intestinal tract unless treated promptly. Inhalation: Vapors may severely damage tissue and produce scarring. Skin Absorption: Toxic (ANSI Z129.1 1988) by skin absorption. Skin Contact: May be absorbed through skin, cause malaise and discomfort and must be treated promptly. Severe skin irritant. May cause skin sensitization. Eye Contact: Conjunctivitis, corneal edema. Severe irritant. Chronic Effects of Overexposure: May cause respiratory sensitization and chronic lung toxicity. Long term effects: coughing, tightness of chest, shortness of breath. Other Health Hazards: Exposure may result in sensitization of the skin. Medical Conditions Aggravated by Exposure: Chronic respiratory disease, e.g., bronchitis, emphysema, and amine sensitivity.

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EMERGENCY AND FIRST AID PROCEDURES:

Swallowing: Do not induce vomiting. Give large quantities of water to dilute material. **Call a physician.** Skin: Remove contaminated clothing and flush skin with plenty of water. **Call a physician.** Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and **call a physician.** Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. **Get medical attention promptly. Notes to Physician:** There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

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SECTION VII - Precautions for Safe Handling and Use

Steps To Be Taken in Case Material is Released or Spilled: Ventilate area. Absorb spill with suitable absorbent material and place into a closed container. Wear protective equipment during cleanup. Waste Disposal Method: Collect in absorbent material and burn in adequate incinerator or bury in approved landfill. Contact your state or local waste agency, or contact the United States Environmental Protection Agency's RCRA Hotline **(1-800-424-9346) or (202-382-3000).** Precautions To Be Taken in Handling and Storing: Do not get in eyes, on skin, or clothing. Avoid breathing vapors. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Other Precautions: For industrial use only.

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SECTION VIII - Control Measures

Respiratory Protection: MSA-NIOSH-approved respirator in accordance with 29CFR1910.134. Use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors. Ventilation: Local Exhaust: Require good ventilation. Mechanical (General): Recommended Special: N/A, Other: N/A, Protective Gloves: Rubber or polyethylene. Eye Protection: Safety glasses with side shields or full face mask. Other Protective Clothing or Equipment: Clean, long-sleeve shirt and long leg pants. Launder contaminated clothing before reuse. Destroy contaminated shoes to prevent reuse. Work/Hygienic Practices: Practice good housekeeping to avoid skin contact and to avoid breathing vapors.

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SECTION IX - U.S. Federal Regulations

TOXIC SUBSTANCES CONTROL ACT (TSCA)- All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory. OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es) are corrosive and toxic by skin absorption and ingestion. EPA SARA Title III Section 312 (40CFR370) hazard class - Immediate Health Hazard. EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "deminimis" level are None.

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SECTION X - Transportation Information

DOT PROPER SHIPPING NAME: Corrosive liquid, basic, organic, N.O.S., (1,3-Benzenedimethanamine) Hazard Class 8; U.N. 3267; Packing Group II.

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SECTION XI - State Regulations

PROPOSITION 65 SUBSTANCE(S) (components) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the State of California under the "Safe Drinking Water and Toxic Enforcement Act of 1986." None. CA = California Haz. Subst. List; CA65C, CA65R, CA65C/R = California Safe Drinking Water and Toxics Enforcement Act of 1986 or Proposition 65 List; CT = Connecticut Toxic Subst. List; FL = Florida Subst. List; IL = Illinois Tox. Subst. List; LA = Louisiana Haz. Subst. List; MA = Massachusetts Subst. List; ME = Maine Haz. Subst. List; MN = Minnesota Haz. Subst. List; NJ = New Jersey Haz. Subst. List; PA = Pennsylvania Haz. Subst. List; RI = Rhode Island Haz. Subst. List. New Jersey Trade Secret Registry Number(s): 05995500.

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SECTION XII - International Regulations

EUROPEAN ECONOMIC COMMUNITY (EEC) EINICS MASTER INVENTORY Included on Inventory EEC SYMBOL CORROSIVE (C) EEC COUNCIL DIRECTIVES RELATING TO THE CLASSIFICATION, PACKAGING AND LABELING OF DANGEROUS SUBSTANCES AND PREPARATIONS RISK (R) AND SAFETY (S) PHRASES Harmful if contact with skin and if swallowed (R21/22). Causes burns (R34). Avoid contact with skin, eyes and clothing. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26). Wear suitable protective clothing, gloves and eye/face protection (S36/37/39). **WHMIS HAZARD CLASSIFICATION:** Class D Division 1B, Class D Division 2A, Class D Division 2B, Class E Corrosive. Hazardous Ingredients: Aliphatic Amines