

# 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: 9/20/08 Supersedes: 6/20/2005

**FOR CHEMICAL  
EMERGENCY**  
Call Chem-Tel  
1-800-255-3924  
24 hrs./7days per week  
Outside US Call  
1-813-248-0585

## SECTION I - Product Identification: FIVE STAR® NOVOLAC STRUCTURAL CONCRETE RESIN/COMPONENT A

## SECTION II - Hazardous Ingredients/Identify Information

**Components:** Bisphenol F/Epichlorohydrin Epoxy Resin  
**C.A.S. No.:** 28064-14-4  
**OSHA PEL:** N/A  
**ACGIH TLV:** N/A  
**Other Limits:** N/A  
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 = 3 Fire = 1 Reactivity = 0 Personal Protection = E

## SECTION III: - Physical/Chemical Characteristics

**Boiling Point (°F):** Decomposes  
**Specific Gravity (H<sub>2</sub>O = 1):** 1.19  
**Vapor Pressure (mm Hg.):** N/A  
**Melting Point (°F):** May freeze below 60°F  
**Vapor Density: (AIR = 1):** N/A  
**Evaporation Rate:** N/A  
(Butyl Acetate = 1)  
**Solubility in Water:** Insoluble  
**Appearance and Odor:** Yellow liquid, aromatic odor.

## SECTION IV - Fire and Explosion Hazard Data

**Flash Point:** 495° F. Pensky-Martens closed cup. **Flammable Limits:** Class 3B, **LEL:** N/A, **UEL:** N/A. **Extinguishing Media:** Foam, CO<sub>2</sub>, 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, CO<sub>2</sub>, smoke, toxic vapors. **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):** Oral LD50 (RAT) > 2,000 MG/KG, Dermal LD50 > 3000 mg/kg (Rabbit) Not Determined, **Skin Irritation (RABBIT)** No Irritation, **Eye Irritation (RABBIT)** Slight Irritation, **Sensitization** May cause sensitization, **Overexposure Effects** Irritation, sensitization and dermatitis, **Carcinogenicity:** NTP? No. **IARC Monographs?** No. **OSHA Regulated?** No. **SIGNS AND SYMPTOMS OF EXPOSURE:** **Inhalation:** May cause nasal irritation, damage to the central nervous system, depression or lung injury. **Eye Contact:** Mild to moderate irritation, corneal injury is unlikely. **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.

## EMERGENCY AND FIRST AID PROCEDURES:

**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.

## 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.

## 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.

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Issue Date: 9/20/08 Supercedes: 6/20/2005

## SECTION I - Product Identification: FIVE STAR® NOVOLAC STRUCTURAL CONCRETE 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	N/E	N/E	N/E
Polyamine Mixture	135108-88-2	N/E	N/E	N/E
Aromatic Alcohol	100-51-6	N/E	N/E	N/E

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

## SECTION III: - Physical/Chemical Characteristics

Boiling Point (°F):	N/A	Specific Gravity (H <sub>2</sub> O = 1):	1.08
Vapor Pressure (mm Hg.):	N/A	Melting Point (°F):	N/A
Vapor Density: (AIR = 1):	N/A	Evaporation Rate: (Butyl Acetate = 1)	N/A

Solubility in Water: nil = <1g/L Appearance and Odor: Amber colored liquid, ammonia like odor.

## SECTION IV - Fire and Explosion Hazard Data

Flash Point: 232°F (111°C) Closed cup. Flammable Limits: LEL: NA, UEL: NA. Extinguishing Media: Water, fog, alcohol foam, CO<sub>2</sub>, dry chemical. Special Fire Fighting Procedures: Use full protective clothing, self-contained breathing apparatus to avoid inhalation of smoke and vapors. Unusual Fire and Explosion Hazards: Decomposition and combustion products may contain carbon monoxide and nitrogen oxide gases.

## SECTION V - Reactivity Data

Stability: Unstable: ( ) Stable: (X)

Conditions to Avoid: Can autoignite in air at approximately 572°F (300°C). Incompatibility (Materials to Avoid): Epoxy resins under uncontrolled conditions, acid, oxidizing material, halogenated organic compounds. Hazardous Decomposition or Byproducts: Carbon monoxide and nitrogen oxides.

Hazardous Polymerization: May occur: ( ) Will not occur: (X) Conditions to Avoid: N/A

## SECTION VI - Health Hazard Data

Routes of Entry: Inhalation: Yes. Skin: Yes. Ingestion: Yes. Health Hazards (Acute and Chronic): Eye irritant. Skin irritant. Respiratory tract irritant. 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. Skin Absorption: Prolonged or repeated exposure may result in the absorption of harmful amounts of material. Inhalation: Vapors are irritating. Skin Contact: Causes chemical burns and may result in sensitization. Eye Contact: Causes moderate corneal injury. Chronic Effects of Overexposure: None currently known. Other Health Hazards: Exposure may result in sensitization of the skin. Medical Conditions Aggravated by Exposure: allergy, eczema or skin conditions, amine sensitivity, and respiratory illnesses.

## 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 approved organic mask. 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. 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)- Chemical components are included in TSCA Inventory. OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es). Corrosive. 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: Amines, liquid, corrosive, n.o.s., (1, 3 - Benzenedimethanamine, Polyamine Mixture); Hazard Class 8; UN2735; Packing Group III.

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## SECTION XI - State Regulations

PROPOSITION 65 SUBSTANCE(S) listed by the state of California under the "Safe Drinking Water and Toxic Enforcement Act of 1986." None

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## SECTION XII - International Regulations

EUROPEAN ECONOMIC COMMUNITY (EEC) EINICS MASTER INVENTORY Polymeric substance; monomers 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).

**IMO SHIPPING DATA:** Amines, liquid, corrosive, n.o.s.,(1, 3 - Benzenedimethanamine, Polyamine Mixture); Hazard Class 8; UN2735; Packing Group III.

**ICAO/IATA SHIPPING DATA:** Amines, liquid, corrosive, n.o.s.,(1, 3 - Benzenedimethanamine, Polyamine Mixture); Hazard Class 8; UN2735; Packing Group III.

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## SECTION I - Product Identification: FIVE STAR® NOVOLAC STRUCTURAL CONCRETE AGGREGATE/COMPONENT C

## SECTION II - Hazardous Ingredients/Identity Information

### Components:

Silicon Dioxide, Crystalline Silica, Silica Sand SiO<sub>2</sub>, 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/m<sup>3</sup> and 29 CFR 1910.1000 Table Z-1-A, Air Contaminants, specifically: Crystalline Quartz (Respirable) 10 mg/m<sup>3</sup> / %SiO<sub>2</sub>+2

ACGIH TLV (Threshold Limit Value): Crystalline Quartz TLV-TWA = 0.05 mg/m<sup>3</sup> (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/m<sup>3</sup> (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour week.

\*Respirable Dust \*\*Total Dust

HMIS: Health = 1 Fire = 0 Reactivity = 0 Personal Protection = E

## SECTION III: - Physical/Chemical Characteristics

<u>Boiling Point</u> (°F):	N/A	<u>Specific Gravity</u> (H <sub>2</sub> O = 1):	2.7
<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> :	None

(Butyl Acetate = 1)

Solubility in Water: Negligible.

Appearance and Odor: Tan to black.

## SECTION IV - Fire and Explosion Hazard Data

Flash Point: Noncombustible. Flammable Limits: LEL: N/A, UEL: N/A.

Extinguishing Media: N/A. Special Fire-Fighting Procedures: Not applicable. Unusual Fire and Explosion Hazards: None.

## SECTION V - Reactivity Data

Stability: Unstable: ( ) Stable: (X)

Conditions to Avoid: N/A. Incompatibility (Materials to Avoid): Strong acids. Hazardous Decomposition or Byproducts: None known. 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): Prolonged overexposure to Crystalline Free Silica Dust above the threshold limit may cause scarring of the lungs with cough and shortness of breath. A delayed lung injury silicosis may result from breathing free silica. Carcinogenicity: NTP? Yes.

"Known to be a human carcinogen." IARC Monographs? Yes. OSHA Regulated? No. IARC Group 1. "IARC states there is 'sufficient evidence' for the carcinogenicity of inhaled crystalline silica to humans."

Signs and Symptoms of Exposure: May cause coughing, sneezing and nasal irritation. May cause skin irritation and dryness. Medical Conditions Aggravated by Exposure: Respiratory ailments. Emergency and

First Aid Procedures: Remove to fresh air. Immediately flush eyes with plenty of water for at least 15 minutes. Wash exposed areas with water thoroughly after handling. See physician.

## SECTION VII - Precautions for Safe Handling and Use

Steps To Be Taken in Case Material is Released or Spilled: Cleanup with dustless method (use vacuum or wet sweeping). Provide ventilation.

Waste Disposal Method: Follow state and local regulations for solid waste. If there is a question as to disposal, call the United States

Environmental Protection Agency's RCRA Hot Line (1-800-424-9346) or (202-382-3000). Precautions To Be Taken in Handling and Storing:

Use dustless system of storage and handling. Other Precautions: Use good housekeeping techniques.

## SECTION VIII - Control Measures - Respiratory Protection:

When the Permissible Exposure Limit (PEL) or the Threshold Limit Value (TLV) is exceeded on a time weighted average, 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. Ventilation: Local Exhaust: Recommended as appropriate. Mechanical (General):

Recommended as appropriate. Special: Engineering controls (e.g. mechanical exhaust) should be in place in order to ensure that the employee exposure to respirable silica dust does not exceed the permissible exposure limits. Other: None. Protective Gloves: Yes. Eye Protection:

Enclosed eye goggles. Other Protective Clothing or Equipment: N/A. Work/Hygienic Practices: Use good housekeeping techniques.

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