



Safety Data Sheet

Date Revised: 02/22/2019

Supersedes: 02/15/2019

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name(s): Five Star® HP Epoxy Grout - Nuclear/Component B

Synonyms: Not Applicable

Product Use: Epoxy Grouting of equipment

Restrictions on Use: To be used with HP Epoxy Grout Resin - Nuclear/Component A

Manufacturer/Supplier: Five Star Products, Inc.
60 Parrott Drive
Shelton, CT 06484 USA

Phone #: 203-336-7900

Emergency Phone #: CHEM-TEL 1-800-255-3924
(Outside the U.S. 1-813-248-0585)

SECTION 2: HAZARD(S) IDENTIFICATION-GHS INFORMATION

Classification: Acute Toxicity – Oral Category 4
Acute Toxicity – Dermal, Category 4
Skin Corrosion, Category 1B
Sensitization – Skin, Category 1
Serious Eye Damage, Eye Irritation - Category 1
Sensitization – Respiratory, Category 1
Toxic to Reproduction (unborn child) – Category 2
Specific Target Organ Toxicity (Single Exposure) – Category 1
Specific Target Organ Toxicity (Repeated Exposure) – Category 1

Label Elements/Hazard Pictograms:



Signal Word: Danger

Hazard Statements: H302, Harmful if swallowed
H312, Toxic in contact with skin
H314, Causes severe skin burns and eye damage
H317, May cause an allergic skin reaction
H318, Causes serious eye damage
H334, May cause allergy or asthma symptoms or breathing difficulties if inhaled
H361, Suspected of damaging fertility or the unborn child
H370, Causes damage to organs: (skin, eyes)



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H372, Causes damage to organs through prolonged or repeated exposure: (skin, respiratory tract, eyes, mucous membranes)

Precautionary Statements/Prevention:

P260, Do not breathe dust, fume, gas, mist, vapors, or spray.
P264, Wash thoroughly after handling.
P270, Do not eat, drink or smoke when using this product.
P272, Contaminated work clothing should not be allowed out of the workplace.
P280, Wear protective gloves, protective clothing, eye protection and face protection.
P284, Wear respiratory protection.

Response:

P330, P331, If swallowed: Rinse mouth. Do NOT induce vomiting.
P361, P353, If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P340, If inhaled: Remove person to fresh air and keep comfortable for breathing.
P351, If in eyes: Rinse cautiously with water for several minutes.
P338, Remove contact lenses, if present and easy to do. Continue rinsing.
P310, Immediately call a poison center or doctor.
P333, P313, If skin irritation or rash occurs: Get medical advice / attention.
P342, P310, P363, If experiencing respiratory symptoms: Call a poison center or doctor. Wash contaminated clothing before reuse.

Storage:

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable regional, national, and local laws and regulations.

Hazards Not Otherwise Classified:

None Known

Ingredients with Unknown Toxicity:

Not Established

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS			
Hazardous Ingredient(s)	Common Name/Synonyms	CAS No.	% wt/wt
Aliphatic Amines	Not available	Trade Secret	80 - 95
Tertiary Amines	Not available	Trade Secret	5 - 20



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SECTION 4: FIRST AID MEASURES

Inhalation:	If inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms call poison center or doctor.
Eye Contact:	If in eyes: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
Skin Contact:	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. Immediately call a poison center or doctor if irritation develops. Wash contaminated clothing before reuse.
Ingestion:	If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.
General Advice:	In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
Note to Physicians:	Symptoms may not appear immediately.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability and Explosion Information:	Not flammable or combustible by OSHA/WHMIS criteria
Sensitivity to Mechanical Impact:	This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge:	This material is sensitive to static discharge at temperatures at or above the flash point.
MEANS OF EXTINCTION	
Suitable Extinguishing Media:	Small Fire: Dry chemical, CO ₂ , or water spray. Large Fire: Dry chemical, CO ₂ , alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material.
Unsuitable Extinguishing Media:	Not Applicable
Product of Combustion:	Carbon monoxide. Oxides of nitrogen.
Protection of Firefighters:	TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death. Contact with molten substance may cause severe burns to skin and eyes. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is



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specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 ft). Stay upwind. Keep out of low areas. Ventilate enclosed areas. ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area).
- Personal Precautions:** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.
- Environmental Precautions:** Prevent entry into waterway, sewers, basements, or confined areas.
- Methods for Containment:** Stop leak if you can do it without risk.
- Methods for Cleanup:** Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers.
- Other Information:** See Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

- Handling:** Do not swallow. Do not breathe mist, vapors, or spray. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Contaminated work clothing should not be allowed out of workplace. See Section 8 for information on Personal Protective Equipment.
- Storage:** Store locked up. Store away from incompatible materials. See Section 10 for information on incompatible materials. Keep out of reach of children.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	CAS No.	ACGIH	OSHA
Aliphatic Amines*	Trade Secret	No TLV established.	No PEL established.
Tertiary Amines	Trade Secret	No TLV established.	No PEL established.

PEL: Permissible Exposure Limit TLV: Threshold Limit Value.

*AIHA WEEL (WS, 10/2011): Absorbed through skin. Skin Sensitization. TWA: 5mg/m³, 8 hours.

Engineering Controls: Not normally required.



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PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Eye/Face Protection:** Wear chemical safety goggles and full face shield. Ensure that eyewash stations and safety showers are close to the workstation location. Use equipment for eye protection that meets the standards referenced for OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
- Hand Protection:** Wear protective gloves. Rubber or polyethylene material is recommended. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing. Clothing with full length sleeves and pants should be worn.
- Respiratory Protection:** Wear respiratory protection. If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/OSHA approved air-purifying respirator with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance:	Liquid
Color:	Straw Yellow
Odor:	Ammoniacal
Odor Threshold:	Not Available
Physical State:	Liquid
pH:	Not Applicable
Melting Point / Freezing Point:	Liquid
Initial Boiling Point:	> 212°F (100°C)
Boiling Point:	> 605°F (318°C)
Flash Point:	315°F (157°C) ASTM D 92
Evaporation Rate:	Not Applicable
Flammability (solid, gas):	Not Applicable
Lower Flammability Limit:	Not Applicable
Upper Flammability Limit:	Not Applicable
Vapor Pressure:	1.33 mbar @ 68°F (20°C)



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Vapor Density:	1 [Air = 1]
Relative Density:	0.98
Solubility:	Not Available
Partition Coefficient: n-Octanol/Water:	Not Available
Auto-ignition Temperature:	Can autoignite in air at approximately 676°F
Decomposition Temperature:	Not Available
Viscosity:	50 – 80 cps
Percent Volatile, wt. %:	0%
VOC Content, wt. %:	0%
Density:	0.98 g/cc
Coefficient of Water/Oil Distribution:	Not Available

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Stable under normal conditions.
Chemical Stability:	The product is stable.
Possibility of Hazardous Reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to Avoid:	Avoid exposure – obtain special instructions before use. Keep away from heat, sparks, flame and other ignition sources.
Incompatible Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Decomposition products may include the following materials: nitrogen oxide, carbon monoxide, other organic compounds.
Other Hazards:	Heating this substance to above 300°F in the presence of air may cause slow oxidative decomposition; above 500°F polymerization may occur. Some combinations of resins and curing agents can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from the thermal and chemical decompositions vary widely in composition and toxicity.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity:

Product/Ingredient Name	Result	Species	Dose
Tertiary Amine	LD50 Oral	Rat	1,200 mg/kg
	LD50 Oral	Rat	1,673 mg/kg



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	LD50 Dermal	Rat	1,280 mg/kg
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Specific Target Organ Toxicity (Single Exposure):

Product/Ingredient Name	Category	Target Organs
Aliphatic Amine	1	Eyes, Mucous membranes
Tertiary Amine	3 2	Respiratory tract irritation Skin, Eyes

Specific Target Organ Toxicity (Repeated Exposure):

Product/Ingredient Name	Category	Target Organs
Aliphatic Amine	1 2	Skin, Respiratory tract Liver, Kidneys
Tertiary Amine	2	Spleen, Liver, Brain

Primary Irritant Effect

On the Skin: Irritant to skin and mucous membranes.

Primary Irritant Effect

On the Eye: Irritating effect.

Swallowing: Can cause abdominal irritation, nausea, vomiting and diarrhea.

Sensitization: Sensitization possible through skin contact.
Sensitizing effect through inhalation is possible by prolonged exposure.

Additional Toxicological Information: The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

- Irritant
- Danger through skin adsorption.
- Toxic and/or corrosive effects may be delayed up to 24 hours.

Repeated Dose Toxicity: Repeated exposures may result in skin and/or respiratory sensitivity.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Aquatic Toxicity:

Product/Ingredient Name	Result	Exposure
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Tertiary Amine	Acute EC50 84 mg/l 201 Alga, Growth Inhibition Test	72 hours
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Persistence and Degradability: Tertiary amine – Not readily biodegradable.

Bio-accumulative Potential: Tertiary Amine: Log Pow 0.219, LOW

Mobility in Soil: No further relevant information available.

Ecotoxicological Effects Remark: Toxic for fish.

Additional Ecological Information

General Notes: This statement was deduced from products with a similar structure or composition. Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment cannot be excluded. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms.

PBT Assessment: PBT: Not applicable.

vPvB Assessment: vPvB: Not applicable.

Other Adverse Effects: No further relevant information available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Recommendation: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional/local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Uncleaned Packaging Recommendation: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION



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US DEPARTMENT of TRANSPORTATION (DOT) Proper Shipping Name:	UN2735, Amines, Liquid, Corrosive, NOS (Aliphatic/tertiary amines) 8, PG III
Class:	8
UN #:	UN2735
Packing Group:	III
CANADA Transportation of Dangerous Goods (TDG) Proper Shipping Name:	UN2735, Amines, Liquid, Corrosive, NOS (Aliphatic/tertiary amines) 8, PG III
Class:	8
UN #:	UN2735
Packing Group:	III
INTERNATIONAL AIR TRANSPORTATION Proper Shipping Name (ICAO/IATA):	UN2735, Amines, Liquid, Corrosive, NOS (Aliphatic/Tertiary amines) 8, PG III
Class:	8
UN #:	UN2735
Packing Group:	III
WATER TRANSPORTATION Proper Shipping Name (IMO/IMDG):	UN2735, Amines, Liquid, Corrosive, NOS (Aliphatic/Tertiary amines) 8, PG III
Class:	8
UN #:	UN2735
Packing Group:	III
Marine Pollutant:	Yes

SECTION 15: REGULATORY INFORMATION

CHEMICAL INVENTORIES

US (TSCA): The components of this product are in compliance with the chemical notification requirements of TSCA.

CANADA (DSL): The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

FEDERAL REGULATIONS

CANADA: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.



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WHMIS Classification: Class D1B - Toxic Material
Class D2A - Respiratory sensitization
Class D2B - Skin sensitization
Class E - Corrosive Material

UNITED STATES: This SDS had been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200

SARA Title III: No components are listed.

STATE REGULATIONS

Massachusetts US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000).

Component:	CAS No.	RTK List:
Aliphatic Amines	TS	Listed

New Jersey US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5).

Component:	CAS No.	RTK List:
Aliphatic Amines	TS	Listed

Pennsylvania US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323).

Component	CAS No.	RTK List:
Aliphatic Amines	TS	Listed

California California Prop 65: This product does not contain chemicals known to the State of California to be Carcinogenic.

SECTION 16: OTHER INFORMATION

HMIS Rating:	Health	Flammability	Physical Hazard	Personal Protection
	3	1	1	D, X

Disclaimer: This information is furnished without warranty of any kind, expressed or implied. Five Star Products, Inc. bases the information and recommendations in this document on data believed to be current and accurate.