



Safety Data Sheet

Date Revised: 11/17/2022

Supersedes: none

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade Name Five Star® HP Epoxy Grout High Flow / Component B Hardener

Registration number -

Synonyms Epoxy hardener, Component B

Issue Date 11-17-2022

Version number A

Revision date 11-17-2022

Supersedes date none

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Grouting and repair

Uses advised against None known

1.3. Details of the supplier of the safety data sheet

Supplier Five Star Products, Inc.
2 Enterprise Drive
Suite 303
Shelton, CT 06484 U.S.A.
00-1-203-336-7900

1.4 Emergency telephone number: VelocityEHS
1-813-248-0585

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture: The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Acute toxicity, oral	Category 4	H302 Harmful if swallowed.
Acute toxicity, dermal	Category 4	H312 Harmful in contact with skin.
Skin corrosion / irritation	Category 1B	H314 Causes severe skin burns and eye damage.
Serious eye damage / eye irritation	Category 1	H318 Causes serious eye damage.
Sensitization, skin	Category 1	H317 May cause an allergic skin reaction.
Specific target organ toxicity following single exposure	Category 3 respiratory tract irritation	H335 May cause respiratory irritation.

Environmental hazards

Hazardous to aquatic environment, acute hazard	Category 2	H401 Toxic to aquatic life.
Hazardous to aquatic environment, long-term hazard	Category 2	H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
Hazard Pictograms

Signal Word

Danger

Hazard Statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements
Prevention

P260	Do not breathe mist/vapors.
P264	Wash thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection

Response

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTRE/doctor.
P391	Collect spillage



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Storage Not assigned

Disposal Not assigned

Supplemental information on the label None

2.3 Other hazards: This mixture does not contain substances assessed to be vPvB / PBT according to Regulation(EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

General information

Chemical Name	%	CAS-No./EC No.
Tetraethylene pentamine	≤90	112-57-2
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	≤70	68953-36-6
2,4,6-Tris-(dimethylaminomethyl)-phenol	≤15	90-72-2
Tetraethylenepentamine	≤10	112-24-3

Composition Comments: All concentrations are in percent by weight.

SECTION 4: First aid measures

General information: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1 Description of first aid measures

Inhalation For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist. Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician.

Eye Contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

4.2 Most important symptoms and effects, both acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could



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result. May cause an allergic skin reaction. Dermatitis. Rash. Causes digestive tract burns.

4.3 Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards	Will burn if involved in a fire.
5.1 Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
5.2 Special hazards arising from the substance or mixture	During fire, hazardous combustion products are released that may include: Carbon oxides. Nitrogen Oxides.
5.3 Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures	
For non-emergency personnel	Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material.
For emergency responders	Keep unnecessary personnel away. Avoid breathing mist/vapors. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Wear appropriate protective equipment and clothing during clean-up.
6.2 Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
6.3 Methods and material for containment and cleaning up	This product is miscible in water. Prevent product from entering drains.



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Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Retain and dispose of contaminated wash water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4 Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe mist/vapours. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS)

7.3 Specific end use(s)

Grouting and repair.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no effect levels (DNELs)

Not available

Predicted no effect concentrations (PNECs)

Not available

8.2 Exposure controls

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.



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Eye/Face Protection	Wear approved chemical safety goggles. Face shield is recommended. Eye protection should meet standard EN 166.
Skin Protection	
Hand protection	Wear suitable gloves chemical resistant gloves. Nitrile or butyl rubber gloves are recommended. Use gloves with breakthrough time of 240 minutes. Minimum glove thickness > 0.4 mm. Other suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with organic vapor cartridge and full facepiece. Check with respiratory protective equipment suppliers
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.
Environmental exposure controls	Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties	
Appearance Physical state Form Colour	Liquid Liquid Light yellow to amber
Odour	Amine / slightly aromatic
Odour Threshold	Not available
pH	Not available
Melting Point / Freezing Point	Not available
Initial Boiling Point and Boiling Range	> 100 °C (> 212 °F)
Flash Point	> 93.4 °C (> 200.12 °F)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable



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Upper/lower flammability or explosive limits	
Explosive limit – lower (%)	Not available
Explosive limit – upper (%)	Not available
Vapour Pressure	1.33 mbar
Vapour Density	Not available
Relative Density	0.96 - 1.03 (Water=1)
Solubility (ies)	
Solubility (water)	Soluble in water. (10 - 99%)
Partition Coefficient (n-Octanol/Water)	Not applicable, product is a mixture
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available
Explosive Properties	Not explosive
Oxidizing properties	Not oxidizing

9.2 Other information

Kinematic viscosity 40 - 240 mm²/s (40 °C (104 °F))

SECTION 10: Stability and reactivity

- 10.1 Reactivity** The product is stable and non-reactive under normal conditions of use, storage, and transport.
- 10.2 Chemical stability** Material is stable under normal conditions.
- 10.3 Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.
- 10.4 Conditions to avoid** Avoid temperatures exceeding the flash point. Contact with incompatible materials.
- 10.5 Incompatible materials** Strong oxidizing agents. Peroxides. Phenols
- 10.6 Hazardous decomposition products** Decomposition is not expected under normal conditions of use and storage. For hazardous combustion products, see section 5.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation Prolonged inhalation may be harmful.



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Skin contact Causes severe skin burns. May cause an allergic skin reaction.

Eye contact Causes serious eye damage.

Ingestion Causes digestive tract burns. Harmful if swallowed.

Symptoms Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause an allergic skin reaction. Dermatitis. Rash. Causes digestive tract burns.

11.1 Information on toxicological effects

Acute Toxicity Harmful in contact with skin. Harmful if swallowed.

Components	Species	Test Results
Tetraethylene pentamine (CAS 112-57-2)		
Acute Dermal LD50	Rabbit	0.66 g/kg
Acute Oral LD50	Rat	2.1 g/kg
Tetraethylenepentamine (CAS 112-24-3)		
Acute Dermal LD50	Rabbit	805 mg/kg

Skin corrosion/irritation Causes severe skin burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory sensitisation Based on available data, the classification criteria are not met.

Skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

Mixture versus substance information No information available.

SECTION 12: Ecological information

12.1 Toxicity Toxic to aquatic life with long lasting effects.

12.2 Persistence and Degradability No data is available on the degradability of this product.



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12.3 Bio-accumulative Potential

Partition coefficient

n-octanol/water (log Kow)

Tetraethylene pentamine (CAS 112-57-2) 1.053

Bioconcentration factor (BCF) Not available.

12.4 Mobility in soil Expected to be mobile in soil.

12.5 Results of PBT and vPvB assessment This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects No data available.

SECTION 13: Disposal considerations

13.1 Waste Treatment Methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Disposal methods / information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways, or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Special Precautions Dispose in accordance with all applicable regulations.

SECTION 14: TRANSPORT INFORMATION

IATA

- 14.1. UN number** UN2735
- 14.2. UN proper shipping name** AMINES, LIQUID, CORROSIVE, N.O.S. (Tetraethylenepentamine)
- 14.3. Transport hazard class(es)**
 - Class** 8
 - Subsidiary Risk** -
 - Label(s)** 8
- 14.4. Packing group** II
- 14.5. Environmental hazards** Yes



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ERG Code 8L

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number UN2735

14.2. UN proper shipping name AMINES, LIQUID, CORROSIVE, N.O.S. (Tetraethylenepentamine)

14.3. Transport hazard class(es)

Class 8

Subsidiary Risk -

14.4. Packing group II

14.5. Environmental hazards

Marine pollutant Yes

EmS F-A, S-B

14.4. Packing group

14.5. Environmental hazards Read safety instructions, SDS and emergency procedures before handling.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Bahrain. Chemicals Subject to the Prior Informed Consent Procedure under the Rotterdam Convention (Law No. 14 of 2012, Annex III)

Not applicable.

Bahrain. CWC Chemical Substances (Decree No. 6 of 1997, Schedules 1, 2 and 3; Law No. 51 of 2009)

Not listed.

Bahrain. Prohibited Chemicals (Ministry of State for Municipal & Environmental Affairs, Resolution No 7 of 2002, On Control of Importing & Use of Prohibited & Restricted Chemicals, Table 1)

Not listed.

Bahrain. Severely Restricted Chemicals (Ministry of State for Municipal & Environmental Affairs, Resolution No 7 of 2002, On Control of Importing & Use of Prohibited & Restricted Chemicals, Table 2)

Not listed

Egypt. Non-Restricted Substances (Unified list of hazardous substances, List C)

Not listed.



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Oman. List of Prohibited Chemical Substances (MD 25/2009. Annex 2

Not listed

Oman. List of Restricted Chemical Substances (MD 25/2009. Annex 1)

Not listed

Saudi Arabia. Jubail & Yanbu. Hazardous Air Pollutants (Royal Commission for Jubail & Yanbu Environmental Regulations, V.1. 2004, Table 2C)

Not listed

UAE. Abu Dhabi. CWC (Chemicals Weapons Convention) Banned from Entry/Import (Standard Operating Procedures for Permitting of Chemicals and Hazardous Materials)

Not listed

UAE. Abu Dhabi. Narcotic Precursors Banned from Entry/Import (Standard Operating Procedures for Permitting of Chemicals and Hazardous Materials)

Not listed

UAE. Ban on Importing and Circulation of Harmful Pesticides for Health and Environment (Ministerial Decree No. 193)

Not listed

UAE. Dubai. CWC (Chemicals Weapons Convention) Federal Environmental Agency, Code of Practice

Not listed

UAE. Dubai. Illicit Drug Traffic, scheduled substances (UN Convention against illicit traffic in narcotic drugs and psychotropic substances), Ministry of Health, Code of Practice

Not listed

UAE. Dubai. Prohibited and restricted imports. Ministry of Environmental and Water, Code of Practice

Not listed

International regulations

Stockholm Convention

Not applicable

Rotterdam Convention

Not applicable

Montreal Protocol

Not applicable

Kyoto Protocol

Not applicable

Basel Convention

Not applicable

International Inventories

Country (s) or region	Inventory Name	On-Inventory (Yes/No)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	YES
Australia	Domestic Substances List (DSL)	YES
Canada	Non-Domestic Substances List (NDSL)	NO
China	Inventory of Existing Chemical Substances in China (IECSC)	YES
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	YES



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Europe	European List of Notified Chemical Substances (ELINCS)	NO
Japan	Inventory of Existing and New Chemical Substances (ENCS)	NO
Korea	Existing Chemicals List (ECL)	YES
New Zealand	New Zealand Inventory	YES
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	YES
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	YES
United States	Toxic Substances Control Act (TSCA) Inventory	YES
* Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).		

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Training information

Follow training instructions when handling this material.

Disclaimer

Five Star Products, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.