

Section 1 Identification

Product identifiers

Product name: TUF-FIL Hi-Temp Gray

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

Identified uses: Polyester Repair Paste

Details of the supplier of the safety data sheet

Freeman Manufacturing and Supply Company
 1101 Moore Road, Avon, OH 44011
 Phone (440) 934-1902
 FAX (440) 934-7200

HMIS	
H	3
F	2
R	1
PPE	
Sec. 8	

24 Hour emergency telephone number: CHEMTREC (800) 424-9300

Section 2 Hazards Identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

- Flammable liquids, Category 3
- Skin corrosion/irritation, Category 2
- Serious eye damage/eye irritation, Category 2
- Acute toxicity (Inhalation), Category 4
- Reproductive toxicity, Category 2
- Carcinogenicity, Category 2
- Specific target organ toxicity (repeated exposure), Category 1

GHS Label elements



Signal word

Danger

Hazard statements

- Flammable liquid and vapor.
- Harmful if inhaled.
- Suspected of damaging the unborn child.
- Suspected of causing cancer.
- Causes serious eye irritation.
- Causes skin irritation.
- May cause respiratory irritation.
- Causes damage to organs through prolonged or repeated exposure if inhaled.

Section 2 Hazards Identification continued

Precautionary statements

Prevention

- Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
- Keep container tightly closed.
- Do not breathe fumes or vapors.
- Wash skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Avoid release to the environment.

Response

- If on skin: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.
- If inhaled: Remove person to fresh air and call doctor/physician if not feeling well.
- If in eyes: Rinse continuously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. If eye irritation persists: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep cool. Keep container tightly closed.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC) or not covered by GHS

None known

Section 3 Composition/Information on Ingredients

Mixture

Ingredient Name	CAS Number	Concentration (%)
Unsaturated polyester resin	Proprietary	10-30
Vinyltoluene	25013-15-4	10-30
Talc	14807-96-6	10-30
Titanium dioxide	13463-67-7	1-5
N,N-Dimethylaniline	121-69-7	<0.5
Styrene monomer	100-42-5	<0.5
Quartz silica	14808-60-7	<0.5

Section 4 First Aid Measures

Description of first aid measures

If inhaled

Move the victim to a safe area as soon as possible. If feeling unwell, get medical attention.

In case of skin contact

Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. If irritation persists, seek medical attention. Wash contaminated clothing before reuse.

In case of eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Immediately get medical attention.

Section 4 First Aid Measures continued

If swallowed

Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. If feeling unwell, get medical attention.

Most important symptoms and effects, both acute and delayed

See Section 2 and/or in Section 11.

Indication of any immediate medical attention and special treatment needed

See toxicological information in Section 11.

Notes to physician: Treat symptomatically.

Section 5 Fire-Fighting Measures

Suitable extinguishing media

Use dry chemical, carbon dioxide, water spray (fog), or alcohol-resistant foam.

Unsuitable extinguishing media

Do not use water jet.

Special hazards arising from the substance or mixture

In a fire or if heated, a pressure increase may occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products

During combustion, decomposition products may include: carbon dioxide, carbon monoxide, sulfur oxides, halogenated compounds, metal oxide/oxides

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas.

For personal protection see Section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers. Keep tightly closed.

Dispose of via a licensed waste disposal contractor.

Section 7 Handling and Storage

Precautions for safe handling

Use normal precautions when handling flammable materials. Do not breathe fumes or vapor. Do not allow material to contact skin. Provide appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from food and drink. Eliminate all ignition sources. Segregate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Section 8 Exposure Controls/Personal Protection

Components with occupational exposure limits

Ingredient	OSHA		ACGIH	
	PEL	STEL	TWA	STEL
Vinyltoluene	100 ppm	Not established	50 ppm	100 ppm
Styrene monomer	50 ppm	100 ppm	20 ppm	40 ppm
Titanium dioxide	15 mg/m ³ (total dust)	15 mg/m ³	10 mg/m ³	Not established
Talc	2 mg/m ³ (respirable fraction)	Not established	2 mg/m ³ (respirable fraction)	Not established
N,N-Dimethylaniline	5 ppm (skin)	Not established	5 ppm	10 ppm

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the workstation.

Personal protective equipment

Eye/face protection

Use safety eyewear complying with an approved standard when a risk assessment indicates this is necessary. Vented goggles are recommended.

Hand Protection

Use disposable gloves to prevent skin contact. Contaminated gloves should be replaced.

Body Protection

Prevent skin contact when handling material.

Respiratory Protection

The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, use a properly fitted, air-purifying or air-fed respirator complying with an approved standard

General Hygienic Practices

Avoid breathing vapor or mist. Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.

Section 9 Physical and Chemical Properties

Appearance	Dark gray paste
Odor	Aromatic
Odor Threshold	No data available
pH	No data available
Melting Point	No data available
VOC Content	1.5 lb./gallon
Initial boiling point & boiling range	No data available
Flash Point	53°C (127°F)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability	No data available

Section 9 Physical and Chemical Properties continued

Vapor Pressure	No data available
Vapor density	No data available
Relative density (g/cc)	1.7±0.05
Water Solubility	Negligible
Coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Viscosity	No data available
% Volatile	10-15%

Section 10 Stability and Reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

Avoid all possible sources of ignition.

Incompatible materials

Oxidizing agents

Hazardous decomposition products

Thermal oxidative decomposition can produce carbon monoxide and carbon dioxide.

Section 11 Toxicological Information

Information on toxicological effects

Acute toxicity of product No data available

Acute toxicity of components

Ingredient	Result	Species	Dose	Exposure
Vinyltoluene	LD50 Oral	Rat	2,255 mg/kg	
Styrene	LD50 Oral	Rat	2,650 mg/kg	4 hours
	LC50 Inhalation	Rat	12,000 mg/m ³	
	LD50 Dermal	Rat	> 2,000 mg/kg	
Titanium dioxide	LD50 Oral	Rat	> 5,000 mg/kg	4 hours
	LC50 Inhalation	Rat	> 6.82 mg/l	
	LD50 Dermal	Rabbit	> 10,000 mg/kg	
N,N-Dimethylaniline	LD50 Dermal	Rabbit	1770 mg/kg	
	LD50 Oral	Rat	1120 mg/kg	

Skin corrosion/irritation Mild skin irritant

Serious eye damage/eye irritation Mild eye irritant

Respiratory or skin sensitization May cause sensitization

Germ cell mutagenicity No data available

Carcinogenicity

- IARC:** Group 1: Carcinogenic to humans (Quartz silica)
- Group 2B: Possibly carcinogenic to humans (Styrene)
- Group 2B: Possibly carcinogenic to humans (Titanium Dioxide)
- Group 3: Not classifiable as a human carcinogen (Vinyltoluene)

Section 11 Toxicological Information continued

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity Suspected of damaging fertility or the unborn child

**Specific target organ toxicity
 - single exposure** Possible respiratory tract irritation

**Specific target organ toxicity
 - repeated exposure** A study of long term effects of workers exposed to styrene levels in the range of 25-35 ppm, 8 hour TWA, indicated a possible mild hearing loss.

Aspiration hazard No known effect

Section 12 Ecological Information

Toxicity No data available

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Results of PBT & vPvB assessment No data available

Section 13 Disposal Considerations

Use safety containers for disposal. Contact a licensed contractor for detailed recommendations. Follow applicable Federal, State, and local regulations.

Section 14 Transport Information

DOT Shipping Name Polyester Resin Kit

Hazard Class: 3

ID No.: UN 3269

Packing Group: III

Label: Consumer Commodity

ORM-D (gal.)

Flammable Class 3 (3 gal.)

Section 15 Regulatory Information

Inventories

United States TSCA Inventory Status: All ingredients are listed or exempted.

US Federal Regulations


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

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

SARA 311/312 Codes: Chronic Health Hazard, Fire Hazard

SARA 313 Toxic Chemicals (40 CFR 372.65): Styrene 100-42-5, CERCLA RQ – 1000 lb.

US State Regulations

California Prop 65:  **WARNING:** This product can expose you to chemicals including Styrene, which is known to the State of California to cause cancer.

For more information go to www.P65Warnings.ca.gov.

Section 16 Other Information

Disclaimer

The following supersedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict of liability arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

Section 1 Chemical Product and Company Identification

Product identifier

Product name: Freeman Cream Hardener

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

Identified uses: For Freeman TUF Line of Repair & Build-Up Materials

Details of the supplier of the safety data sheet

Freeman Manufacturing and Supply Company
 1101 Moore Road, Avon, OH 44011
 Telephone (440) 934-1902

HMIS	
H	2
F	1
R	1
PPE	
Sec. 8	

24 Hour emergency telephone number: CHEMTREC (800) 424-9300

Section 2 Hazard Identification

Classification of the substance or mixture

Organic peroxides, Type E
 Serious eye damage/eye irritation, Category 2
 Skin sensitization, Category 1

GHS Label elements, including precautionary statements



Signal word

Warning

Hazard statements

Heating may cause a fire
 Causes serious eye irritation
 May cause an allergic skin reaction

Precautionary statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Keep only in original container.
 Keep container tightly closed when not in use.
 Avoid breathing fumes or vapors.
 Wash face, hands and any exposed skin thoroughly after handling.
 Contaminated work clothing should not be allowed out of the workplace.
 Keep/Store away from clothing/ combustible materials.
 Wear protective gloves/protective clothing/eye protection/face protection.

Response

Get medical advice/attention if you feel unwell.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Section 2 Hazard Identification continued

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
 IF SWALLOWED: Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Store at temperatures not exceeding 38°C / 100°F.
 Keep cool. Protect from sunlight. Store away from other materials.

Disposal

Dispose of contents and containers in accordance with local and national regulations.

Hazards not otherwise classified (HNOC) or not covered by GHS

None

Section 3 Composition/Information on Ingredients

Hazardous Ingredient	CAS Number	Percent
Benzoyl Peroxide	94-36-0	25 - 50
Isodecyl benzoate	131298-44-7	10 - 25

Section 4 First-Aid Measures

General advice

Get medical advice/attention if you feel unwell.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation

Call a POISON CENTER or doctor if you feel unwell.

Ingestion

Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians: Treat symptomatically.

Section 5 Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: Dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Unsuitable extinguishing media: Strong water jet

Section 5 Fire-Fighting Measures

Special hazards arising from the substance or mixture

Burning produces heavy smoke. Fire may produce irritating and/or toxic gases.
 In the event of fire and/or explosion do not breathe fumes.

Special protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and protective suit.
 Cool containers with flooding quantities of water until well after fire is out.
 Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors or mists. Use personal protective equipment as required.
 Avoid contact with skin, eyes or clothing.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Clean contaminated surface thoroughly. Clean with detergents. Avoid solvent cleaners. Take up mechanically. Collect spillage with an electrically protected vacuum cleaner or by wet-brushing. Place in appropriate labeled containers for disposal. Dispose of waste product or used containers according to applicable laws and regulations.

Section 7 Handling and Storage

Advice on safe handling

Use personal protection recommended in Section 8. Comply with the health and safety at work laws. Prevent product from entering drains. Use only with adequate ventilation. Do not breathe fumes or vapors. No smoking. Keep away from food and drink.

Conditions for safe storage

Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed to prevent leakage. Keep container tightly closed in a dry and well-ventilated place.

Incompatible materials

Strong oxidizing agents. Acids.

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Benzoyl Peroxide 94-36-0	TWA: 5 mg/m3	TWA: 5 mg/m3	IDLH: 1500 mg/m3 TWA: 5 mg/m3

Section 8 Exposure Controls/Personal Protection continued

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation.
 In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear tight sealing safety goggles when handling this product.

Skin and body protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate to prevent skin contact.

Hand protection

Wear protective gloves. There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

General Hygienic Practices

Do not smoke. Keep away from food and drink.
 Avoid contact with skin, eyes and clothing.
 Change working clothes after each work shift.
 Remove and wash contaminated clothing and gloves, including the inside, before re-use.

Section 9 Physical and Chemical Properties

Appearance	White paste
Odor	No data available
Odor threshold	No data available
pH	No data available
Melting/ freezing point	No data available
Initial boiling point	No data available
Evaporation rate	No data available
Flash Point	201°F (94°C)
Flammability (solid, gas)	No data available
Upper/lower flammability	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density (g/cc)	1.2 ± 0.05
Water Solubility	No data available
Coefficient: n-octanol/ water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available

Section 10 Stability and Reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents. Acids.
Hazardous decomposition products	Carbon monoxide and carbon dioxide.

Section 11 Toxicological Information

Information on likely routes of exposure and symptoms of exposure

Eye Contact	Causes serious eye irritation.
Skin Contact	May cause an allergic skin reaction
Inhalation	Not a primary route of entry.
Skin Absorption	Not a primary route of entry.
Ingestion	Not a primary route of entry.

Potential health effects from short and long-term exposure

Skin corrosion/irritation	Not applicable
Serious eye damage/eye irritation	Causes serious eye irritation
Skin sensitization	May cause an allergic skin reaction
Respiratory sensitization	Not applicable
Germ cell mutagenicity	Not applicable
Carcinogenicity	Not applicable
Reproductive Toxicity	Not applicable
Specific target organ toxicity (single exposure)	Not applicable
Specific target organ toxicity (repeated exposure)	Not applicable
Aspiration hazard	Not applicable

Toxicological data

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Benzoyl Peroxide 94-36-0	7710 mg/kg (Rat)	-	-
Isodecyl benzoate 131298-44-7	-	-	-

Unknown acute toxicity

0% of the mixture consists of ingredients of unknown toxicity.

Section 12 Ecological Information

Ecotoxicity

Environmental precautions	Prevent product from entering drains.
Marine pollutant	This material meets the definition of a marine pollutant.
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Results of PBT & vPvB assessment	PBT and vPvB assessment has not been carried out

Section 13 Disposal Considerations

Contact a licensed disposal contractor for detailed recommendations. Dispose of wastes in accordance with applicable local, regional, national, and/or international laws and regulations. Contaminated packaging must be scrapped or reconditioned. Improper disposal or reuse of contaminated packaging may be dangerous and illegal.

Section 14 Transport Information

DOT/IMDG/IATA

UN/ID No.:	UN3108
Proper Shipping Name:	Organic Peroxide, Type E, Solid Dibenzoyl Peroxide
Hazard Class:	5.2
Packing Group:	II

Environmental hazard: Yes

Marine pollutant: This material meets the definition of a marine pollutant
Marine pollutant: Dibenzoyl peroxide , Zinc stearate

Special Provisions

	122, 274	A20, A802
Emergency Response Guide	EmS-No	
Number	F-J, S-R	
145		

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

The supplier may apply one of the following exceptions: Combustible Liquid (49 CFR 173.150(f)); Consumer Commodity (49 CFR 173.150(c), ICAO/IATA SP A112); Limited Quantity (49 CFR 173.150(b), ICAO Part 3 Chapter 4, IATA 2.7, IMDG Chapter 3.4); Viscous Liquid (49 CFR 173.121(b), IMDG 2.3.2.2, IATA 3.3.3.1.1, ICAO 3.2.2, ADR 2.2.3.1.5); Does Not Sustain Combustion (49 CFR 173.120(a), IATA 3.3.1.3, ICAO 3.1.3, IMDG 2.3.1.3, ADR 2.2.3.1.1 Note 1); or others as allowed under hazardous materials/dangerous goods regulations.

Section 15 Regulatory Information

International Inventories

TSCA - United States Toxic Substance Control Act Section 8(b) Inventory: All components are listed or exempt from listing.

DSL - Canadian Domestic Substance List : All components are listed or exempt from listing.

US Federal Regulations

SARA 313: Benzoyl Peroxide (94-36-0) 25-50%
Zinc Stearate (557-05-1) 5-10%

SARA 311/312: Acute Health Hazard, Chronic Health Hazard, Reactive Hazard

US State Right-to-Know Regulations

California Proposition 65: This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

Other US State Right-to-Know Regulations: Benzoyl Peroxide (94-36-0), Isodecyl benzoate (131298-44-7), Zinc Stearate (557-05-1), Calcium sulfate (7778-18-9)

Section 16 Other Information

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