

Freeman 5001 Hi-Temp Blue Board Epoxy Resin

Section 1 Identification

Product identifiers

Product name: Freeman 5001 Hi-Temp Blue Board Epoxy Resin

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

Identified uses: Epoxy Hi-Temp Adhesive resin

Details of the supplier of the safety data sheet

Freeman Manufacturing and Supply Company

1101 Moore Road, Avon, OH 44011

Telephone (440) 934-1902

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

Section 2 Hazards Identification

GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)

Skin Irritant, Category 2

Skin Sensitizer, Category 1

Eye Irritant, Category 2A

Aquatic Chronic, Category 2

GHS Label elements, including precautionary statements



Signal word

Warning

Hazard Statements

Harmful if swallowed.

May be harmful in contact with skin.

May cause an allergenic skin reaction.

Causes serious eye irritation

Toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wash hands thoroughly after handling.

Do not eat, drink, or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

Freeman 5001 Hi-Temp Blue Board Epoxy Resin

Section 2 Hazards Identification continued

Response

Get medical attention if you feel unwell.
 IF exposed or if you feel unwell: Call a POISON CENTER or physician.
 IF SWALLOWED: Rinse mouth. Do not induce vomiting. Get medical attention.
 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
 If skin irritation or rash occurs: Get medical attention.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention.
 IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention immediately.
 Wash contaminated clothing before reuse.
 Collect spillage.

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

Ingredient Name	CAS Number	Concentration (%)
Diglycidyl-Ether of Bisphenol-A	25068-38-6	30-60
Alkyl C12-C14 Glycidyl Ether	68609-97-2	3-7
Reaction product: Bisphenol F-(epichlorohydrin); epoxy resin	9003-36-5	7-13

Section 4 First Aid Measures

Description of first aid measures

If inhaled

Move person into fresh air. If breathing is labored, administer oxygen. If not breathing, give artificial respiration. Get medical attention.

In case of skin contact

Wash off in flowing water or shower with soap and rinse thoroughly. Remove contaminated clothing and discard. If irritation persists, consult a physician.

In case of eye contact

Flush eyes with water for at least 15 minutes. Get medical attention immediately. Continue rinsing eyes during transport to hospital. Do not use eye ointment.

If swallowed

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Freeman 5001 Hi-Temp Blue Board Epoxy Resin

Section 5 Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: Foam, carbon dioxide, dry chemical, water spray. DO NOT use a direct water stream.

Hazardous thermal decomposition products

The by-products expected in incomplete pyrolysis or combustion of epoxy resins are mainly phenolics, carbon monoxide, and water. The thermal decomposition products of epoxy resins therefore should be treated as potentially hazardous substances and appropriate precautions should be taken. May liberate carbon monoxide or carbon dioxide.

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Flashpoint

>150°C (closed cup)

Conditions of flammability

Combustible

Further information

Collect contaminated fire extinguishing water separately. Do not discharge into drains. Dispose of in accordance with local regulations.

Section 6 Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

Wear appropriate protective equipment. For personal protection see section 8.

Environmental precautions

Do not let product enter drains. If product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up

Avoid contact with material. Evacuate all non-essential personnel. Keep spark producing equipment away. Dike area to prevent spill spreading and soak up with absorbent material such as sand or polypropylene/polyethylene fiber products and collect in suitable containers. Residual resin may be removed using steam or hot soapy water. Solvents are not recommended for cleanup unless the recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult appropriate solvent SDS for handling information and exposure guidelines. Dispose of absorbent materials in accordance with regulations.

Section 7 Handling and Storage

Precautions for safe handling

Maintain emergency eye wash stations and showers near working area. Practice good caution and personal cleanliness to avoid skin, eye contact, and direct inhalation. Recommended pumping and storage temperature is 15-25°C.

Conditions for safe storage, including any incompatibilities

Keep containers tightly sealed when not in use. Store away from heat, ignition sources, and store away from incompatible materials. Store in a cool, dry, and well ventilated area.

Freeman 5001 Hi-Temp Blue Board Epoxy Resin

Section 8 Exposure Controls/Personal Protection

Appropriate engineering controls

Good general ventilation is sufficient for most conditions. NOTE: If grinding or sanding cured product use NIOSH/MSHA approved respiratory protection at all times.

Personal protective equipment

Eye/face protection

Safety glasses with side shields. Splash proof goggles.

Hand protection

Gloves resistant to chemicals and petroleum distillates required.

Skin/body protection

Use protective clothing impervious to this product. Selection of specific items such as face shield, gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin with soap and water, and launder clothing before reuse.

Respiratory protection

No respiratory protection should be needed at room temperature. Avoid breathing vapors of heated material. NOTE: If grinding or sanding cured material use NIOSH or OSHA approved respiratory protection.

Safety stations

Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

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.

Exposure limits

Not available.

Section 9 Physical and Chemical Properties

Physical state	Liquid
Odor and appearance	Faint epoxy odor
Odor threshold	No data available
Boiling point	>200°C (392°F)
Evaporation rate	No data available
Vapor pressure (Pa)	13.3
Vapor density (Air = 1)	Not available
Specific gravity (g/cm³)	0.95

Section 10 Stability and Reactivity

Reactivity

Excess heating above 60°C over long periods of time degrades the resin. Hazardous polymerization will not occur by itself, but masses of more than 1 lb. of product plus an aliphatic amine will cause irreversible polymerization with considerable heat buildup.

Chemical stability

Stable under recommended storage conditions. Avoid excessive heat, strong oxidizers, acids, and bases.

Conditions to avoid

Avoid excessive heat, strong oxidizers, acids, and bases.

Freeman 5001 Hi-Temp Blue Board Epoxy Resin

Section 10 Stability and Reactivity continued

Incompatible materials

Bases, acids, amines, and oxidizing materials, plastics other than Teflon or polypropylene, and aluminum at high temperatures. Sodium or Calcium Hypochlorite. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

Explosion Hazards

Extinguish all nearby sources of ignition since vapors decompose to toxic products at high temperatures. When exposed to heat, closed containers may explode. Contact with strong oxidizers may cause fire or explosion.

Section 11 Toxicological Information

Route of entry

Eye contact

May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

Skin contact

Prolonged or repeated contact may cause skin irritation with local redness.

Inhalation

Not available.

Aspiration Toxicity

Not likely to present a hazard.

Ingestion

Not available.

Acute Toxicity Estimates (ATE)

Very low toxicity if swallowed. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Vapor from heated material, mist, or aerosol may cause respiratory irritation.

Effects of acute exposure to product

Not available.

Effects of chronic exposure to product

Skin sensitization.

Carcinogenicity

Not listed as a carcinogen

Germ Cell Mutagenicity

Animal mutagenicity studies were negative. In vitro mutagenicity studies were negative in some cases and positive in others.

Reproductive Toxicity

No reproductive effects.

Toxicity Data

Diglycidyl-Ether of Bisphenol-A Oral LD50 (rats):30,000 mg/kg

Alkyl C12-C14 Glycidyl Ether Oral LD50 (rats): 19,200 mg/kg

Diglycidyl-Ether of Bisphenol-A Dermal LD50 (rabbits):> 1,200 mg/kg

Alkyl C12-C14 Glycidyl Ether Dermal LD50 (rabbits): >4,500 mg/kg

Reaction product: Bisphenol F-(epichlorohydrin); epoxy resin- Oral LD50 (rats):

>2,000 mg/kg Estimated*Dermal: prolonged skin contact is unlikely to result in absorption of harmful amounts. The Dermal LD50 has not been determined.

Freeman 5001 Hi-Temp Blue Board Epoxy Resin

Section 11 Toxicological Information continued

Skin Corrosion/Irritation	Not available
Respiratory or Skin Sensitization	Not available
Other information	Not available

Section 12 Ecological Information

Persistence and degradability	Material not readily biodegradable
Bioaccumulative potential	No data available
Mobility in soil	No data available
Results of PBT & vPvB assessment	No data available

Section 13 Disposal Considerations

Contact a licensed waste management company for detailed recommendations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate, or otherwise inappropriate. Do not allow into any sewers, on the ground, or into any body of water. Dispose of any unused, uncontaminated, as well as contaminated product, by a properly licensed company. Follow applicable Federal, State, and local regulations.

Section 14 Transport Information

TDG:

TDG Proper Shipping Name: This product is not regulated by TDG when shipped domestically by land.

DOT: Not regulated for Transport.

SEA transport (IMO-IMDG)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S.(EPOXY RESIN)

UN Number: UN 3082

Class: 9

Packing Group: III

Marine pollutant: Epoxy resin

Transportation in bulk: Consult IMO regulations before transporting ocean bulk according to Annex I or II of Marpol 73/78 and the IBC or IGC Code.

Air transport (IATA-ICAO)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S.(EPOXY RESIN)

UN Number: UN 3082

Class: 9

Packing Group: III

Hazard Class: Not applicable

UN Number: Not applicable

Packing Group: Not applicable

Note: No additional remark

Marine Pollutant: No

Freeman 5001 Hi-Temp Blue Board Epoxy Resin

Section 15 Regulatory Information

TSCA

All ingredients are on the TSCA Chemical Substance Inventory, or are not required to be listed on the TSCA inventory.

DSL

The substance(s) in this product is/are on the Canadian Domestic Substances List.

WHMIS

D28

Section 16 Other Information

Disclaimer

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Section 1 Identification

Product identifiers

Product name: Freeman 5001 Hi-Temp Blue Board Epoxy Hardener

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

Identified uses: Epoxy Hi-Temp Adhesive hardener

Details of the supplier of the safety data sheet

Freeman Manufacturing and Supply Company

1101 Moore Road, Avon, OH 44011

Telephone (440) 934-1902

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

Section 2 Hazards Identification

GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)

Acute Toxicity, dermal, Category 4

Acute Toxicity, oral, Category 4

Skin Corrosion/Irritation, Category 1B

Serious Eye Damage/Eye Irritation, Category 1

Skin Sensitization, Category 1

Acute Aquatic Toxicity, Category 2

GHS Label elements, including precautionary statements



Signal word

Danger

Hazard Statements

Harmful if swallowed or in contact with skin.

Causes severe skin burns and eye damage.

May cause an allergenic skin reaction.

Causes serious eye damage.

Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wash hands thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

Section 2 Hazards Identification continued

Response

Get medical attention if you feel unwell.
 IF exposed or if you feel unwell: Call a POISON CENTER or physician.
 IF SWALLOWED: Rinse mouth. Do not induce vomiting. Get medical attention.
 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
 If skin irritation or rash occurs: Get medical attention.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical attention.
 IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention immediately.
 Wash contaminated clothing before reuse.
 Collect spillage.

Storage

Store locked up.

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

Ingredient Name	CAS Number	Concentration (%)
Isophorone diamine	2855-13-2	30-60
Polymer of c-18 unsat'd fatty acid dimers w/ teta & tofa	68082-29-1	15-40
3,6,9-triazaundecamethylenediamine	112-57-2	15-40

Section 4 First Aid Measures

Description of first aid measures

If inhaled

Move person into fresh air. If breathing is labored, administer oxygen. If not breathing, give artificial respiration. Get medical attention.

In case of skin contact

Wash off in flowing water or shower with soap and rinse thoroughly. Remove contaminated clothing and discard. If irritation persists, consult a physician.

In case of eye contact

Flush eyes with water for at least 15 minutes. Get medical attention immediately. Continue rinsing eyes during transport to hospital. Do not use eye ointment.

If swallowed

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Section 5 Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: Water spray, carbon dioxide, dry chemical, foam to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Hazardous thermal decomposition products

Carbon dioxide, carbon monoxide, nitrogen oxides

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Collect contaminated fire extinguishing water separately. Do not discharge into drains. Dispose of in accordance with local regulations.

Section 6 Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

Wear appropriate protective equipment. Avoid contact with liquid and vapors. For personal protection see section 8.

Environmental precautions

Do not let product enter drains. If product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up

Avoid contact with material. Evacuate all non-essential personnel. Keep spark producing equipment away. Dike area to prevent spill spreading and soak up with absorbent material such as sand or polypropylene/polyethylene fiber products and collect in suitable containers. Residual resin may be removed using steam or hot soapy water. Dispose of absorbent materials in accordance with regulations.

Section 7 Handling and Storage

Precautions for safe handling

Maintain emergency eye wash stations and showers near working area. Practice good caution and personal cleanliness to avoid skin, eye contact, and direct inhalation.

Conditions for safe storage, including any incompatibilities

Keep containers tightly sealed when not in use. Store away from heat, ignition sources, and store away from incompatible materials. Store in a cool, dry, and well ventilated area.

Section 8 Exposure Controls/Personal Protection

Appropriate engineering controls

Good general ventilation is sufficient for most conditions. Avoid breathing mists if general ventilation or local exhausts is inadequate. Persons exposed to mists should wear appropriate NIOSH/MSHA approved breathing devices.

Personal protective equipment

Eye/face protection

Splash proof goggles with side shields.

Hand protection

Gloves resistant to chemicals and petroleum distillates required.

Section 8 Exposure Controls/Personal Protection continued

Skin/body protection

Freeman 5001 Hi-Temp Blue Board Epoxy Hardener

Protective clothing such as coveralls or lab coats must be worn. When handling large quantities, impervious suits, gloves, and rubber boots must be worn.

Respiratory protection

Airborne concentrations should be kept to lowest levels possible. If vapor, mist, or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH/MSHA approved respirators.

Safety stations

Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

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.

Exposure limits

Not available.

Section 9 Physical and Chemical Properties

Physical state	Liquid
Odor and appearance	Ammonia-like
Odor threshold	No data available
pH	11.7
Freezing point	No data available
Boiling point	220.6°C (429°F)
Evaporation rate	No data available
Vapor pressure	No data available
Vapor density (Air = 1)	> 1
Specific gravity (g/cm³)	0.95
Water solubility (%)	> 10
Coefficient of water/oil	No data available

Section 10 Stability and Reactivity

Reactivity

No known dangerous reaction if stored and applied as directed.

Chemical stability

Stable under recommended storage conditions. Avoid excessive heat, strong oxidizers, acids, and bases.

Conditions to avoid

Avoid heating up the product. Hazardous polymerization will not occur by itself, but masses of more than 1 lb. of epoxy resin combined with this product will cause irreversible polymerization with considerable heat buildup.

Incompatible materials

Bases, acids, amines, and oxidizing materials, plastics other than Teflon or polypropylene, and aluminum at high temperatures. Sodium or Calcium Hypochlorite. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

Hazardous decomposition products

Thermal oxidative decomposition can produce carbon oxides, and nitrogen oxides.

Section 10 Stability and Reactivity continued

Explosion Hazards

Extinguish all nearby sources of ignition since vapors decompose to toxic products at high temperatures. When exposed to heat, closed containers may explode. Contact with strong oxidizers may cause fire or explosion.

Section 11 Toxicological Information

Route of entry

Eye contact

Causes irritation, experienced as pain, with excess blinking and tear production, and seen as extreme redness and swelling of the eye and chemical burns of the eye. Severe eye damage may cause blindness.

Skin contact

Causes severe irritation with pain, severe excess redness and swelling with chemical burns, blister formation, and possible tissue destruction.

Inhalation

Vapor is irritating and may cause excessive tear formation, burning sensation of the nose and throat, coughing, wheezing, shortness of breath, nausea, and vomiting. Extremely high vapor concentrations may cause lung damage. Some individuals may develop asthma.

Ingestion

Causes burning of mouth, throat, and stomach with abdominal and chest pain, nausea, vomiting, diarrhea, thirst, weakness, and collapse. Aspiration may occur during swallowing or vomiting, resulting in lung damage.

Skin absorption

Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.

Effects of acute exposure to product

Skin contact may cause sensitization and an allergic skin reaction and may aggravate an existing dermatitis. Cross-sensitization may occur by skin contact with this material and other amines.

Effects of chronic exposure to product

Repeated skin contact may cause a persistent irritation or dermatitis. Repeated inhalation may cause lung damage. Overexposure to vapor, dust, or mist may aggravate existing respiratory conditions, such as asthma, bronchitis, and inflammatory or fibrotic respiratory disease. Repeated oral exposures may cause kidney and liver changes.

Mutagenicity

In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

Toxicity Data

Isophorone diamine- Oral LD50 (Rats): 1,030 mg/kg**Dermal* LD50 (Rats): >2,000 mg/kg
Polymer of c-18 unsat'd fatty acid dimers w/ teta & tofa- Oral LD50 (Rats): >2,000 mg/kg
Estimated**Dermal* LD50 (Rabbits):> 2,000 mg/kg Estimated
3,6,9-triazaundecamethy/enediamine- Oral LD50 (Rats): > 3,250 mg/kg**Dermal*
LD50 (Rabbits): 1,260 mg/kg

Section 11 Toxicological Information continued

Carcinogenicity	Not available
Reproductive toxicity	Not available
Teratogenicity	Not available
Toxicologically synergistic products	Not available

Section 12 Ecological Information

Toxicity	Harmful to aquatic life
Persistence and degradability	Material not readily biodegradable
Bioaccumulative potential	No data available
Mobility in soil	No data available
Results of PBT & vPvB assessment	No data available

Section 13 Disposal Considerations

Contact a licensed waste management company for detailed recommendations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate, or otherwise inappropriate. Do not allow into any sewers, on the ground, or into any body of water. Dispose of any unused, uncontaminated, as well as contaminated product, by a properly licensed company. Follow applicable Federal, State, and local regulations.

Section 14 Transport Information

TDG: TDG Proper Shipping Name: Corrosive Liquid, N.O.S. (Amine)
Hazard Class: 8
UN Number: 1760
Packing Group: III
Note: No additional remark
Marine pollutant: Yes

Section 15 Regulatory Information

TSCA
All ingredients are on the TSCA Chemical Substance Inventory, or are not required to be listed on the TSCA inventory.

DSL
The substance(s) in this product is/are on the Canadian Domestic Substances List.

WHMIS
D1B, D2B, E

NFPA
Health: 3, Flammability: 1, Reactivity: 0

SARA

311	Immediate (acute) health hazard *Delayed (chronic) health hazard
312	Immediate (acute) health hazard *Delayed (chronic) health hazard
313	Not listed

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.