

Section 1 Identification

Product Identifiers

Product name: Freeman 5070 Red Polyurethane Repair Paste Part A (Resin)

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified uses: For Industrial/Professional use only.

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, Inhalation, Category 4

Skin Irritation, Category 2

Eye Irritation, Category 2B

Respiratory Sensitization, Category 1

Skin Sensitization, Category 1

Carcinogenicity, Category 2

Specific Target Organ Toxicity, Single Exposure, Category 3

Specific Target Organ Toxicity, Repeated Exposure, Inhalation, Category 2

GHS Label Elements, Including Precautionary Statements



Signal word

Danger

Hazard Statements

May cause an allergic skin reaction

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Causes skin and eye irritation.

Harmful if inhaled.

May cause respiratory irritation.

Suspected of causing cancer.

May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary Statements

Prevention

Do not handle until all safety precautions have been read and understood.

Do not breathe dust, fumes, gas, mist, vapors, or spray.

Wash skin thoroughly after handling.

Freeman 5070 Part A (Resin)

Section 2 Hazards Identification continued

Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear protective gloves, protective clothing, eye protection, and face protection.
 In case of inadequate ventilation, wear respiratory protection.

Response

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
 IF INHALED: Remove victim to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Get medical advice/attention.
 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.

Storage

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

Disposal

Dispose of contents and container to an appropriate waste site in accordance with local, regional, and national regulations.

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
Polymeric Isocyanates	9016-87-9	80-100
Methylene Bisphenyl Isocyanate (MDI)	101-68-8	55-65
101-68-8 is an MDI isomer that is part of CAS #9016-87-9		

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

Section 4 First Aid Measures

Description of First Aid Measures

Inhalation

Move exposed person to fresh air. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention immediately. Do NOT use mouth-to-mouth resuscitation.

Skin

Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts, and watch bands. Suitable emergency safety shower facility should be immediately available.

Eyes

Immediately flush eyes with plenty of clean water for an extended time, not less than 15 minutes. Remove contacts if present and easy to do so. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of eyes by separating the eyelids with fingers and roll eyes in a circular motion. Get medical attention immediately.

Section 4 First Aid Measures continued.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed.

Irritation and allergic symptoms. Respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath, and difficulty breathing, the onset of which may be delayed. Repeated inhalation of high concentrations may cause lung damage, including reduced lung function, which may be permanent. Substances eliciting lower respiratory tract irritation may worsen the asthma-like reactions that may be produced by product exposures.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants, and antitussives may be of help. Treat bronchospasm with inhaled beta 2 agonist and oral parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed.

Section 5 Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Use water spray, foam, dry chemical, or carbon dioxide.

Unsuitable Extinguishing Media: High volume water jet.

Specific Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion Hazards: Closed container may rupture (due to build up in pressure) when exposed to extreme heat. Use cold-water spray to cool fire-exposed containers to minimize risk of rupture.

Hazardous Combustion Products: Thermal decomposition products may include: Carbon monoxide, carbon dioxide, and irritating or toxic vapors.

Special Protective Equipment and Precautions for Fire-Fighters

Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use. Evacuate all persons from the fire area to a safe location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the fire. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of the liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. Use water spray to cool fire-exposed containers.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate non-emergency personnel. See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal Protective Equipment must be worn.

Environmental Precautions

Do not flush product into public sewer, water systems, or surface waters.

Freeman 5070 Part A (Resin)

Section 6 Accidental Release Measures continued**Methods and Materials for Containment and Cleaning Up**

Small Spill: Dike and absorb isocyanate with suitable absorbent material. Shovel into open container. Do not make container pressure tight. Move container to a well ventilated area. Spill area can be decontaminated with the following recommended solution: Mixture of 90% water, 8% concentrated ammonia, 2% detergent. Add at a 10:1 ratio with spilled material. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

Large Spill: Dike spillage. If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal. For residues: Wash down with decontamination solution. Allow solution to stand for at least 10 minutes.

Section 7 Handling and Storage**Precautions for Safe Handling**

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Wash thoroughly after handling this product. Always wash up before eating, smoking, or using the facilities. Avoid eye and skin contact. Avoid drinking, tasting, swallowing, or ingesting this product. Wash contaminated clothing before reuse. Discard shoes contaminated with this product.

Conditions for Safe Storage, Including Any Incompatibilities

Keep away from heat, sparks, and open flames. Store dry at 15-40°C, under well-ventilated conditions. Store this material away from incompatible substances. Do not store in open, unlabeled, or mislabeled containers. Keep container closed when not in use. Empty container contains residual product which may exhibit hazards of product. Do not reuse empty container without commercial cleaning or reconditioning. If bulging of drums occurs, transfer to a well ventilated area, puncture to relieve pressure, open vent, and let stand for 48 hours before resealing.

Section 8 Exposure Controls/Personal Protection**Appropriate Engineering Controls**

Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist, and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary use mechanical handling to reduce human contact with materials.

Eye/Face Protection

Chemical safety goggles or full face shield with chemical safety goggles underneath are required.

Section 8 Exposure Controls/Personal Protection continued
Skin Protection

Wear chemical resistant (impervious) gloves; PVC, neoprene, nitrile rubber, EVAL, butyl rubber. Wear chemical resistant protective clothing. Use good laboratory/workplace procedures including personal protective clothing: lab coat and protective gloves. When there is potential for a major splash directly on the skin, such as when breaking into lines, a full chemical suit is required. When the application results in airborne, vapor, or mist, a full permeation resistant suit, including head covering, face shield, gloves, and overshoes, is required.

Respiratory Protection

Wear an approved respirator (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self-contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume, or vapor exceed the applicable exposure limits of any chemical substance listed in this SDS.

Other Protective Measures

Eyewash fountains and safety showers are recommended in the work area. Cover as much exposed skin as possible to prevent all skin contact.

Section 9 Physical and Chemical Properties

Appearance	Brown Liquid
Odor Threshold	0.4 ppm*
pH	No data available
Melting/Freezing Point	Forms crystals below 10°C
Boiling Point	No data available
Flash Point	No data available
Evaporation Rate	No data available
Flammability (Solid, Gas)	No data available
Vapor Pressure	< 0.001 hPa @ 20°C (68°F)
Vapor Density	8.5, Air = 1
Specific Gravity	1.18-1.24 @ 20°C (68°F) Measured.
Solubility in Water	6.8 mg/L @ 25°C (77°F) Estimated: Reacts w/ evolution of CO ₂
Viscosity	40-60 cP @ 25°C (77°F)
VOC	165.000

*NOTE: Based on the literature for MDI. Odor is inadequate warning of excess exposure.

Section 10 Stability and Reactivity
Reactivity

Exothermic reactions including polymerization may occur in contact with alcohols, acids, alkalis, and amines. Reacts with water, whereby carbon dioxide is produced.

Chemical Stability

The product is stable.

Possibility of Hazardous Reactions

Reacts with water, whereby carbon dioxide is produced. Risk of bursting. Reacts with alcohols, acids, alkalis, and amines. Risk of exothermic reaction. Risk of violent reaction (amines). Risk of polymerization.

Conditions to Avoid

Excessive heat and ignition sources.

Section 10 Stability and Reactivity continued

Incompatible Materials

Avoid alcohols, acids, alkalis, amines, and water.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors.

Section 11 Toxicological Information

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics

Acute

Eyes: Irritating – Rabbit – Draize Test

Dermal LD₅₀: 9,400 Skin, Rabbit: mL/kg

Inhalation LC₅₀: >2,000 Rat; mg/kg

Repeated Dose Effects

The substance may cause damage to olfactory epithelium after repeated inhalation. These effects are not relevant to humans at occupational levels of exposure. Repeated inhalation of the substance did not cause damage to reproductive organs.

Sensitization

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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

Disposal

Incinerate or otherwise dispose of in compliance with all applicable local, state, and federal environmental control laws and regulations. Containers should be drained of all residual product prior to disposal.

Section 14 Transport Information

U.S. DOT NA Number:	NA3082
U.S. DOT Proper Shipping Name:	Other Regulated Substances, Liquid, N.O.S. (MDI)
Primary Hazard Class:	9
Packing Group:	III
Reportable Quantity Under CERCLA:	5,000 lb.
Air (ICAO/IATA) Shipping Name:	Not regulated for transport
Vessel (IMO/IMDG) Shipping Name:	Not regulated for transport. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code.

Section 15 Regulatory Information

US Federal Regulations

SARA Title III

311/312 Hazard Categories: Acute health hazard, Chronic health hazard.

Reactivity: Yes **Acute:** Yes **Chronic:** Yes

EPRCA Section 313 Supplier Notification

Chemical Name	CAS Number	Concentration (%)
Polymeric Isocyanates	9016-87-9	80-100
Methylene Bisphenyl Isocyanate (MDI)	101-68-8	55-65

CERCLA

CERCLA Regulatory: Diisocyanates Compound Category

Chemical Name	CAS Number	Concentration (%)	CERCLA RQ
Methylene Bisphenyl Isocyanate (MDI)	101-68-8	55-65	5,000

TSCA

Chemical Name	CAS Number	Concentration (%)
Polymeric Isocyanates	9016-87-9	80-100
Methylene Bisphenyl Isocyanate (MDI)	101-68-8	55-65

Regulations

State Regulations: PA, NJ, MA, RTK

California Proposition 65

This product contains no substance that is known to the State of California to cause cancer, birth defects, or other reproductive harm, at levels which would require a warning under the statute.

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 Identification

Product Identifiers

Product name: Freeman 5070 Red Polyurethane Repair Paste Part B (Hardener)

Relevant Identified Uses of the Substance or Mixture

For Industrial/Professional use only.

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

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

Section 2 Hazards Identification

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

Health

Acute Toxicity – Oral, Category 4
Eye Irritation, Category 2A
Acute Toxicity – Dermal, Category 4
Target Organ Toxicity – Repeated exposure, Category 2

Environmental

Aquatic Toxicity, Category 1
Chronic Hazards to the Aquatic Environment, Category 1

GHS Label Elements, Including Precautionary Statements



Signal word

Warning

Hazard Statements

Harmful if swallowed.
Harmful in contact with skin.
Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Do not breathe dust, fumes, gas, mist, vapors, or spray.
Wash hands and skin thoroughly after handling
Do not eat, drink, or smoke when using this product.
Avoid release to the environment.
Wear protective gloves, protective clothing, eye protection, and face protection.

Freeman 5070 Part B (Hardener)

Section 2 Hazards Identification continued

Response

IF SWALLOWED: Rinse mouth. Get medical attention if you feel unwell.
 IF ON SKIN: Take off contaminated clothing and wash it before reuse. Gently wash with plenty of soap and water. Get medical 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 attention.

Storage

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

Disposal

Dispose of contents and container to an appropriate waste site in accordance with local, regional, and national regulations.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
 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.
 No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
Diethylmethylbenzenediamine	68479-98-1	1-6

Section 4 First-Aid Measures

Description of First Aid Measures

Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact

Remove contaminated clothing and shoes. After contact with skin, wash immediately with plenty of water. Wash clothing before reuse. Seek medical advice.

Inhalation

If symptomatic move to fresh air. Get medical attention if symptoms persist.

Ingestion

Drink 1 to 2 glasses of water. Seek medical advice.

Section 5 Fire-Fighting Measures

Flammability Class

Non-flammable.

Extinguishing Media

Use water spray, carbon dioxide, dry chemical, or appropriate foam.

Special Protective Equipment & Precautions 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.

Freeman 5070 Part B (Hardener)**Section 6 Accidental Release Measures****Personal Precautions, Protective Equipment, and Emergency Procedures**

Personal protective equipment must be worn. See Section 8 for recommendations on the use of personal protective equipment. Eliminate sources of ignition. Ventilate spill area. Keep unauthorized persons away.

Environmental Precautions

Avoid release to the environment. Do not flush product into public sewer, water systems, or surface waters.

Methods and Materials for Containment and Cleanup

If possible, stop flow of product. Construct dike to prevent spreading. Soak up with inert absorbent material and dispose of as hazardous waste. Place in appropriate chemical waste container and dispose of in accordance with all local, state, and federal regulations.

Section 7 Handling and Storage**Safe Handling**

Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands thoroughly before eating, drinking, and smoking. Follow all SDS/label precautions even after container is empty because it may retain product residues.

Safe Storage

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls/Personal Protection**Appropriate Engineering Controls**

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Skin Protection

Chemical resistant protective gloves should be worn to prevent all skin contact. Suitable materials may include neoprene rubber, nitrile rubber, chlorinated polyethylene, polyvinylchloride, and butyl rubber, depending on conditions of use.

Eye Protection

Safety glasses or goggles.

Other Protective Measures

Wash hands, forearms, and face thoroughly after handling chemical products, before eating, drinking, smoking, using the lavatory, and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Freeman 5070 Part B (Hardener)

Section 9 Physical and Chemical Properties

Appearance	Liquid
Color	Red
Odor	Mild
Boiling Point	No data available
Flash Point	Not applicable
Flammability Limits	No data available
Vapor Pressure	1
Vapor Density	1
Specific Gravity	1
Solubility	Slight Solubility, <1%
Viscosity	1,500 cP
Comments	% Volatile by Volume: Negligible, <1%

Section 10 Stability and Reactivity

Reactivity
 Yes

Chemical Stability
 This product is stable under normal storage conditions.

Possibility of Hazardous Reactions
 No

Incompatible Materials
 Strong oxidizing agents, strong acids.

Hazardous Decomposition Products
 Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11 Toxicological Information

Eye Contact
 Irritating to eyes.

Skin Contact
 Harmful in contact with skin.

Ingestion
 Harmful if ingested.

Chronic Health Effects
 For Specific Target Organ Toxicity, diethyltoluenediamine is classified as harmful by repeated exposure (Category 2). The pancreas was identified as the target organ of toxicity in all repeated-dose studies.

Acute Toxicity Values

Chemical Name	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rat)
Diethyltoluenediamine	500 mg/kg	2,000 mg/kg

Section 11 Toxicological Information continued

Carcinogenicity

Three oral carcinogenicity studies have been performed on rats. Based on the available data diethyltoluenediamine is not considered to be carcinogenic.

Sensitization

Not available.

Mutagenicity

Three in vivo genotoxicity studies were negative. Current studies support that diethyltoluenediamine is not genotoxic.

Section 12 Ecological Information

Aquatic Toxicity (Acute)

Very toxic to aquatic life.

Bioaccumulative Potential

Not bioaccumulative.

Section 13 Disposal Considerations

Disposal

Incinerate or otherwise dispose of in compliance with all applicable local, state, and federal environmental control laws and regulations.

Section 14 Transport Information

UN Number: UN3082

UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S.,
 (Diethyltoluenediamine)

Transportation Hazard Class

U.S. DOT:	9
Canada TDG:	9
Europe ADR/RID	9
IMDG Code (Ocean)	9
ICAO/IATA (Air)	9

Packing Group: III

Environmental Hazards

Marine Pollutant:	Yes
Hazardous Substance (USA):	No

Section 15 Regulatory Information

US Federal Regulations

SARA TITLE III

Fire: No **Pressure Generating:** No **Reactivity:** No **Acute:** Yes **Chronic:** Yes

TSCA

Chemical Name	CAS Number
Diethylmethylbenzenediamine	68479-98-1
TSCA Status: All chemical components of this product are in compliance with TSCA inventory requirements.	

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.