

Material Safety Data Sheet

Freeman Repro A-R "A" Side

Date of Preparation: January 3, 2007

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Freeman Repro A-R "A" Side

Chemical Family: Polyol

CAS Number: N/A

Other Designations: N/A

General Use: N/A

Manufacturer: Freeman Manufacturing and Supply Company, 1101 Moore Road, Avon, OH 44011, Phone (440)934-1902, FAX (440) 934-7200, Hours of Operation 8-5, Emergency Phone 800-424-9300.

HMIS

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[†]Sec. 8

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Combustible. Causes eye, skin, and respiratory irritations.

Section 2 - Composition / Information on Ingredients

Ingredient Name

CAS Number

Urethane Polyol
Aromatic Solvent

Proprietary
Blend

Ingredient	OSHA		ACGIH		Vapor Pressure
	PEL	STEL	TLV	STEL	
Urethane Polyol	none estab.	none estab.	none estab.	none estab.	N/A
Aromatic Solvent	100 ppm	none estab.	25 ppm	none estab.	1.7 mm Hg @ 68°F

Section 3 - Physical and Chemical Properties

Appearance and Odor: Gray liquid; mild odor

Vapor Pressure: Not determined

Vapor Density (Air=1): Not determined

VOC Content: 1.20 lbs/gal

Specific Gravity (H₂O=1, at 4 °C): 1.908

Water Solubility: Slight

Boiling Point: Not determined

% Volatile: 7-12%

Evaporation Rate: Not determined

pH: Not determined

Section 4 - Fire-Fighting Measures

Flash Point: 150 °F (66°C)

Flash Point Method: SETA

LEL: Not established

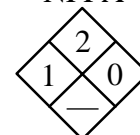
UEL: Not established

Extinguishing Media: Foam, water, CO₂, or dry chemical

Fire-Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

NFPA



Section 5 - Stability and Reactivity

Stability: Stable.

Conditions to Avoid: Contamination with materials containing active NCO compounds, excessive heat for prolonged period.

Chemical Incompatibilities: Strong oxidizing agents, acids, metal-organic compounds.

Hazardous Decomposition Products: Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

Hazardous Polymerization: Will not occur. Avoid inadvertent mixture of A and B parts.

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Skin; Inhalation from heated vapors.

Acute Effects:

Inhalation: Irritates the respiratory tract

Eye: Causes irritation

Skin: Causes irritation

Ingestion: Swallowing can cause abdominal irritation, nausea, vomiting, and diarrhea.

Medical Conditions Aggravated by Long-Term Exposure: Persons with severe skin problems should avoid use.

Chronic Effects: No known chronic effects associated with this material.

Emergency and First Aid Procedures

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and/or artificial respiration.

Eye Contact: Flush with plenty of water for 15 minutes and get medical attention.

Skin Contact: Wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Ingestion: If conscious, give 2-4 glasses of water to drink. Do not induce vomiting. Get medical attention.

Section 7 - Spill, Leak, and Disposal Procedures

Spill /Leak Procedures: Stop spill at source. Dike area and contain. Clean up remainder with absorbent materials such as sand or vermiculite. Mop up and dispose of.

Disposal: Dispose of in safety containers as a solid water material. Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Ecological Information: N/A

Toxicology Information:

Acute Inhalation Exposure Effects: Respiratory irritant.

Skin Irritation: Irritant.

Eye Irritation: Irritant.

Regulatory Information:

US Federal Regulations:

OSHA (Occupational Safety and Health Act): This Material Safety Data Sheet has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

RCRA (Resource Conservation and Recovery Act): Not a hazardous waste under RCRA (40 CFR 261).

SARA 311/312 Codes: Acute Health, Fire.

SARA Toxic Chemical (40 CFR 372.65): This product contains the following toxic chemical subject to the reporting requirements of Section 313 of SARA Title III of 1986 and of 40 CFR 372.

Xylenes	CAS # 1330-20-7	< 0.1 %
Naphthalene	CAS # 91-20-3	< 0.1 %

TSCA Inventory Status: All ingredients listed on TSCA inventory requirements.

State Regulations: CA Proposition 65: Naphthalene (CAS # 91-20-3) is listed as a cancer hazard.

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May contain trace amounts of xylene (CAS # 1330-20-7) and naphthalene (CAS # 91-20-3) which is on the New Jersey, Pennsylvania and Massachusetts Right to Know lists.

Silicon Carbide (CAS # 409-21-2) is listed on the New Jersey and Pennsylvania Right to Know Lists

Section 8 - Exposure Controls / Personal Protection

Ventilation: Local exhaust recommended. General mechanical is acceptable. Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2).

Respiratory Protection: Use a NIOSH approved respirator when vapor/mist exposure is likely.

Eye Protection: Wear splash-proof chemical goggles.

Skin Protection: Wear impermeable gloves.

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

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Special Precautions and Comments

Handling & Storage: Use with adequate ventilation. Avoid prolonged breathing of vapor. Avoid prolonged or repeated contact with skin. Wear safety goggles or face shield. Wear gloves, apron and footwear impervious to this material. Wash clothing before reuse. Store at ambient temperatures or below 90 F. When resealing cans, use a nitrogen purge (Magic Blanket). Keep container tightly closed and upright when not in use to prevent leakage.

Other Handling Information: Nuisance dust may be generated when sanding or sawing cured material.

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Liquid Plastic,
N.O.I., Non-Regulated

Shipping Symbols:

Hazard Class:

ID No.:

Packing Group:

Label:

Special Provisions (172.102):

Packaging Authorizations

a) Exceptions:

b) Non-bulk Packaging:

c) Bulk Packaging:

Quantity Limitations

a) Passenger, Aircraft, or Railcar:

b) Cargo Aircraft Only:

Vessel Stowage Requirements

a) Vessel Stowage:

b) Other:

Prepared By:

Revision Notes:

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Material Safety Data Sheet

Freeman Repro A-R "B" Side

Date of Preparation: January 3, 2007

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Freeman Repro A-R "B" Side

Chemical Family: Isocyanate

CAS Number: N/A

Other Designations: N/A

General Use: N/A

Manufacturer: Freeman Manufacturing and Supply Company, 1101 Moore Road, Avon, OH 44011, Phone (440)934-1902, FAX (440) 934-7200, Hours of Operation 8-5, Emergency Phone 800-424-9300.

HMIS

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PPE†

†Sec. 8

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Combustible. Causes skin, eye, and respiratory irritations. May cause allergic skin and respiratory reactions.

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number
Polymeric Diphenylmethane Diisocyanate	9016-87-9
4,4'-Diphenylmethane Diisocyanate	101-68-8
Aromatic Solvent	Blend

Ingredient	OSHA		ACGIH		Vapor Pressure
	PEL	STEL	TLV	STEL	
Polymeric Diphenylmethane Diisocyanate	none estab.	none estab.	none estab.	none estab.	N/A
4,4'-Diphenylmethane Diisocyanate	0.02 ppm	none estab.	0.005 ppm	none estab.	N/A
Aromatic Solvent	100 ppm	none estab.	25 ppm	none estab.	1.7 mm Hg @ 68°F

Section 3 - Physical and Chemical Properties

Appearance and Odor: Gray liquid; mild odor

Vapor Pressure: Not determined

Vapor Density (Air=1): Not determined

VOC Content: 1.10 lbs/gal

Specific Gravity (H₂O=1, at 4 °C): 1.908

Water Solubility: Reacts with water

Boiling Point: Not determined

% Volatile: 7-12%

Evaporation Rate: Not determined

pH: Not determined

Section 4 - Fire-Fighting Measures

Flash Point: 150 °F

Flash Point Method: SETA

LEL: Not established

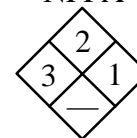
UEL: Not established

Extinguishing Media: Foam, CO₂, dry chemical.

Fire-Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

NFPA



Section 5 - Stability and Reactivity

Stability: Stable.

Conditions to Avoid: Contamination with moisture and other products that react with isocyanates. Avoid prolonged heating over 160F or storing below 75F. Avoid water contamination.

Incompatibility: Water, alcohols, strong oxidizing agents, strong bases, acids, metal-organic compounds.

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, traces of HCN, MDI vapors.

Hazardous Polymerization: May occur. Avoid contact with moisture or other material, which react with isocyanates. May occur at temperatures above 400° F (204° C).

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Skin; Inhalation from heated vapors.

Acute Effects

Inhalation: Irritation to eyes, skin, and respiratory tract. May cause asthmatic-like symptoms.

Eye: Eye irritation may include tearing, reddening, and swelling.

Skin: Skin irritation may include reddening, swelling, rash, scaling or blistering, and in some cases, skin sensitization.

Ingestion: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Medical Conditions Aggravated by Long-Term Exposure: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperactivity) skin allergies, eczema.

Chronic Effects

Inhalation: As a result of previous repeated overexposures, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Sensitization can either be temporary or permanent.

Eye: None found.

Skin: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapors.

Ingestion: None found.

Carcinogenicity: IARC, NTP, and OSHA do not list any component as carcinogenic.

Emergency and First Aid Procedures

Inhalation: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Call a physician.

Eye Contact: Flush with plenty of water for at least 15 minutes, holding eyelids open all the time. Get medical attention.

Skin Contact: Wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. Give 1 to 2 cups of milk or water to drink. Do not give anything by mouth to an unconscious person. Consult a physician.

Section 7 - Spill, Leak, and Disposal Procedures

Spill /Leak Procedures: Evacuate and ventilate spill area; dike spill to prevent entry in to water system; wear full protective equipment including respiratory equipment during clean up. Clean up remainder with absorbent materials such as sand or vermiculate. Mop up and dispose of.

Disposal: Dispose in safety containers as a solid waste material. Incineration is the preferred method. Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Ecological Information: N/A

Toxicology Information:

Acute Inhalation Exposure Effects: Respiratory irritant.

Sensitization: Causes allergic skin and respiratory sensitivity in some people.

Skin Irritation: Irritant.

Eye Irritation: Irritant.

Regulatory Information:

US Federal Regulations:

OSHA (Occupational Safety and Health Act): This Material Safety Data Sheet has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

RCRA (Resource Conservation and Recovery Act): Not specifically listed as hazardous waste under RCRA (40 CFR 261). However, it is strongly recommended that compound be treated as a hazardous waste and disposed of accordingly.

SARA 311/312 Codes: Acute Health, Fire.

SARA Toxic Chemical (40 CFR 372.65): This product contains the following toxic chemical subject to the reporting requirements of Section 313 of SARA Title III of 1986 and of 40 CFR 372.

Polymeric Diphenylmethane Diisocyanate CAS # 9016-87-9 12.0 – 15.0 %

Revision:

Freeman Repro A-R "B" Side

4, 4' Diphenylmethane Diisocyanate	CAS # 101-68-8	3.0 – 4.0 %
Xylenes	CAS # 1330-20-7	< 0.1 %
Naphthalene	CAS # 91-20-3	< 0.1 %

TSCA Inventory Status: All ingredients are in compliance with TSCA inventory requirements.

State Regulations:

CA Proposition 65: Naphthalene (CAS # 91-20-3) is listed as a cancer hazard.

May contain trace amounts of xylene (CAS # 1330-20-7) and naphthalene (CAS # 91-20-3) which are on the New Jersey, Pennsylvania and Massachusetts Right to Know lists.

Silicon Carbide (CAS # 409-21-2) is listed on the New Jersey and Pennsylvania Right to Know Lists.

Section 8 - Exposure Controls / Personal Protection

Ventilation: General mechanical and local exhaust in accordance with ACGIH recommendations. Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2).

Respiratory Protection: If a person is concerned with exposure to isocyanates, an organic respirator can provide protection at less than the TLV. It is not a requirement at an exposure level less than the TLV. For exposures beyond the TLV, a supplied air respirator is recommended. Conditions that may create exposures above TLV are spray applications, material being heated above 125 F or use in poorly ventilated areas.

Skin Protection: Wear impermeable gloves.

Eye Protection: Wear splash-proof chemical goggles.

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

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Special Precautions and Comments

Handling & Storage: Store at ambient temperatures or below 90F. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. When resealing cans use a nitrogen purge (Magic Blanket).

Precautions: Causes irritation if inhaled and can cause skin irritation, eye irritation, allergic respiratory reaction, and allergic skin reaction. Avoid contact with skin and eyes. Do not breathe vapors. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations.

Other Handling Information: Nuisance dust may be generated when sanding or sawing cured material.

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Liquid Plastic
N.O.I., Non-Regulated

Shipping Symbols:

Hazard Class:

ID No.:

Packing Group:

Label:

Packaging Authorizations

a) Exceptions:

b) Non-bulk Packaging:

c) Bulk Packaging:

Quantity Limitations

a) Passenger, Aircraft, or Railcar:

b) Cargo Aircraft Only:

Vessel Stowage Requirements

a) Vessel Stowage:

b) Other:

Prepared By:

Revision Notes:

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