

Material Safety Data Sheet

Freeman 1060 Resin

Date of Preparation: June 28, 2007

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Freeman 1060 Resin

Chemical Family: Isocyanate

CAS Number: N/A

Other Designations: N/A

Intended Use or Product Type: Polyurethane Resin

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 Number 800-424-9300

HMIS

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Corrosive – Causes eye burns and skin irritation. Harmful if inhaled. May cause allergic skin and respiratory reactions.
Moisture Sensitive

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	%
Isophorone Diisocyanate	4098-71-9	< 5
Hydrogenated MDI	5124-30-1	10-30
Cycloaliphatic diisocyanate prepolymer	119185-07-8	60-100

Ingredient	OSHA		ACGIH		Vapor Pressure
	PEL	STEL	TWA	STEL	
Isophorone Diisocyanate	none estab.	0.02 ppm	0.005 ppm	none estab.	.0003 mmHg @ 68°F
Hydrogenated MDI	none estab.	none estab.	0.005 ppm	none estab.	0.4 mmHg @ 302°F

Section 3 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Translucent liquid, slight odor.

Viscosity: 15,000-40,000 cps

Vapor Pressure: Not established

Vapor Density (Air=1): >1

Specific Gravity (H₂O=1, at 4 °C): 1.06

pH: Not determined

Water Solubility: Reacts with water

Boiling Point: Not determined

% Volatile: Negligible

Evaporation Rate: Not determined

VOC: 0.021 g/L

Section 4 - Fire-Fighting Measures

Flash Point: >200 °F (>93 °C)

Flash Point Method: Estimated

LEL: Not established

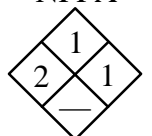
UEL: Not established

Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

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

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

NFPA



Section 5 - Stability and Reactivity

Stability: Stable.

Conditions to Avoid: Excessive heat for prolonged periods of time.

Incompatibility: Strong oxidizers, acids, and bases.

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

Hazardous Polymerization: Will not occur.

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Dermal; heated product may produce inhalable vapors.

Overexposure Effects: Contact with liquid causes eye and skin irritation. If inhaled causes breathlessness, chest discomfort, and reduced pulmonary function. May cause allergic skin and respiratory reactions in some individuals, leading to asthma type spasms of the bronchial tubes and difficulty in breathing.

Medical Conditions Aggravated by Exposure: Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases, eye conditions or recurrent skin eczema or sensitization should be excluded from working with isocyanates.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

Emergency and First Aid Procedures

Inhalation: Remove to fresh air. Call a physician.

Eyes: Immediately flush eyes with water for at least 15 minutes. Call a physician.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before use. Destroy contaminated shoes.

Ingestion: If conscious give 2-4 glasses of water to drink. Do not induce vomiting. Call a physician.

Section 7 - Spill, Leak, and Disposal Procedures

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

Waste Disposal Method: Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

Ecological Information:

Toxicological Information:

Inhalation Toxicity (LC50): Component(s) are toxic, 2-20 mg/l or 200-2000 ppm.

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

Skin Irritation: Irritant.

Eye Irritation: Corrosive. Causes burns.

Regulatory Information

US Federal Regulations:

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazardous Communication Standard 29 CFR 1910,1200. This product is considered to be a hazardous chemical under that standard.

Resource Conservation and Recovery Act (RCRA): 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 Title III: Section 313 Toxic Chemical List (TCL): This product contains the following chemical(s) for routine annual toxic chemical release reporting under Section 313 (40 CFR 372). This information must be included in all MSDS's copied or distributed for this material.

Hydrogenated MDI- Percent in Composition: 10-30% by weight

Isophorone Diisocyanate- Percent in Composition: 1-5% by weight

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.

TSCA Section 12(b) - Export Notification: This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

State Regulations:

California Proposition 65: This product does not contain chemicals which are currently listed on the California list of Known Carcinogens and Reproductive Toxins.

Isophorone Diisocyanate (CAS # 4098-71-9) may be found on the Pennsylvania, New Jersey and the Massachusetts Right to Know Lists

Hydrogenated MDI (CAS # 5124-30-1) may be found on the Pennsylvania and New Jersey Right to Know Lists

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

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 in excess of the TLV, an air supplied respirator would be required. Conditions that may create exposures above the TLV are spray applications, the material being strongly heated in excess of 125F before application, or the use of material in poorly ventilated areas.

Skin Protection: Wear impermeable gloves.

Eye Protection: Wear splash-proof chemical goggles.

Section 9 - Special Precautions and Comments

Handling and Storage

Signal Word: Danger!

Precautions: Corrosive- causes eye burns. Can cause skin irritation, allergic respiratory reaction and allergic skin reaction. Can be harmful if inhaled. Do not get in the eyes. Avoid breathing vapor or mists. Avoid contact with skin and clothing. Keep container closed when not in use. Use adequate ventilation. Wash thoroughly after handling.

DOT Transportation Data (49 CFR 172.101):

Shipping Name: isophorone diisocyanate mixture

Technical Shipping Name (If n.o.s.):

Hazard Class: 6.1

ID No.: UN 2290

Packing Group: PG III

Label: Toxic PG III

Packaging Authorizations

a) **Exceptions:**

b) **Non-bulk Packaging:** X

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 1060 Hardener Red

Date of Preparation: March 19, 2009

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Freeman 1060 Hardener Red

Chemical Family: Amine

CAS Number: N/A

Other Designations: N/A

Intended Use or Product Type: Polyurethane hardener

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 Number 800-424-9300

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CAUTION!

May be harmful if absorbed through the skin or if swallowed

May cause target organ damage (animal data)

Possible animal carcinogen

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	%
*Benzenamine, 4,4'-Methylenebis [2-Ethyl-	19900-65-3	30-60
Dibutyl Phthalate	84-74-2	30-60

* = OSHA Hazardous Ingredient

Ingredient	OSHA		ACGIH		MFR	Vapor Pressure
	TWA	STEL	TWA	STEL	TWA	
Benzenamine, 4,4'-Methylenebis [2-Ethyl-	none estab.	none estab.	none estab.	none estab.	0.08 mg/m ³	none estab.
Dibutyl Phthalate	5 mg/m ³	none estab.	5 mg/m ³	none estab.	none estab.	.00001 mm Hg @ 77 °F

Section 3 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Red liquid, faint odor.

Viscosity: 100-200 cps

Vapor Pressure: Not determined

Vapor Density (Air=1): Not determined

Specific Gravity (H₂O=1, at 4 °C): 1.06

pH: Not determined

Water Solubility: Slight

Boiling Point: Not determined

VOC: 0 g/L

% Volatile: Negligible

Evaporation Rate: Not determined

Section 4 - Fire-Fighting Measures

Flash Point: >200° F (>93° C)

Flash Point Method: Estimated

LEL: Not established

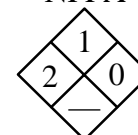
UEL: Not established

Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

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

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

NFPA



Section 5 - Stability and Reactivity

Stability: Stable

Conditions to Avoid: Excessive heat for prolonged periods of time.

Incompatibility: Strong oxidizers, acids, and bases.

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

Hazardous Polymerization: Will not occur.

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Dermal: heated product may produce vapors.

Overexposure Effects: Causes eye, skin, and respiratory irritations. May cause allergic skin reaction.

Medical Conditions Aggravated by Long-Term Exposure: Skin and eye conditions.

Chronic Effects: This product contains dibutyl phthalate which may cause adverse reproductive effects in laboratory animals. The relevance to humans is not known.

Carcinogenicity: Contains DeMDA which is a possible animal carcinogen.

Emergency and First Aid Procedures

Inhalation: Remove to fresh air. Call a physician.

Eyes: Immediately flush eyes with water for at least 15 minutes. Call a physician.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before use. Destroy contaminated shoes.

Ingestion: If conscious give 2-4 glasses of water to drink. Do not induce vomiting. Call a physician.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

Section 7 - Spill, Leak, and Disposal Procedures

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

Waste Disposal Method: Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

Ecological Information: N/A

Toxicological Information:

Sensitization: Possible in susceptible individuals.

Skin Irritation: Irritant.

Eye Irritation: Irritant.

Chronic Exposure Effects: For Benzenamine, 4,4'-methylenebis(2-ethyl-

There is experimental evidence that analogous substances have caused tumors in rodents. Analogous substances have caused damage to liver and thyroid in test animals.

Additional Information: This product contains dibutyl phthalate which may cause adverse reproductive effects in laboratory animals. The relevance to humans is not known.

Regulatory Information:

US Federal Regulations:

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazardous Communication Standard 29 CFR 1910,1200. This product is considered to be a hazardous chemical under that standard.

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

SARA Title III: Section 313 Toxic Chemical List (TCL): This product contains a toxic chemical(s) for routine annual toxic chemical release reporting under Section 313 (40 CFR 372). This material must be included in all MSDS's copied or distributed for this material.

Revision:**Freeman 1060 Hardener Red**

Common Name: Dibutyl Phthalate
 Percent in Composition: 30-60 % by weight

TSCA Section 8b- Inventory Status: All chemical components of this product are in compliance with TSCA Inventory requirements.

TSCA Section 12b- Export Notification: This product does not contain any chemical(s) that are subject to a Section 12b export notification.

State Regulations:

California Proposition 65: This product contains dibutyl phthalate which is on the list as a reproductive hazard.

State Lists: Dibutyl phthalate (CAS # 84-74-2) is on the following state Right to Know Lists: Pennsylvania, New Jersey, Massachusetts

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

Skin Protection: Wear impermeable gloves.

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

Eye Protection: Wear splash-proof chemical goggles.

Section 9 - Special Precautions and Comments

Handling and Storage:

Signal Word: Warning!

Precautions: Causes eye, skin, and respiratory irritations. May cause allergic skin reaction. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Notice! Overexposure may have effects on liver.

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.

Shipping Symbols:

Hazard Class: Not Regulated

ID No.:**Packing Group:****Label:****Special Provisions (172.102):****Packaging Authorizations****Non-bulk Packaging:**

Non-Bulk

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 1066 Hardener Black

Date of Preparation March 19, 2009

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Freeman 1066 Hardener Black

Chemical Formula: Amine Based Polyol

CAS Number: N/A

Other Designations: N/A

Intended Use or Product Type: Amine based polyol

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 Number 800-424-9300

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CAUTION!

May be harmful if absorbed through the skin or if swallowed
May cause target organ damage (animal data)
Possible animal carcinogen

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	%
* Dioctyl adipate	103-23-1	30-60
* Benzenamine, 4,4'-Methylenebis [2-Ethyl-	19900-65-3	30-60
* Formaldehyde, Polymer with 2-Ethylbenzeneamine	69178-41-2	5-10
* = OSHA Hazardous Ingredient		

Ingredient	OSHA		ACGIH		MFR.
	PEL	STEL	TWA	STEL	
Dioctyl adipate	not estab.	not estab.	not estab.	not estab.	not estab.
Benzenamine, 4,4'-Methylenebis [2-Ethyl	not estab.	not estab.	not estab.	not estab.	TWA 0.08mg/m ³
Formaldehyde, Polymer with 2-Ethylbenzeneamine	not estab.	not estab.	not estab.	not estab.	not estab.

Section 3 - Physical and Chemical Properties

Physical State: Liquid

Color: Black

Viscosity: 100-200 cps

Vapor Pressure: Not determined

Vapor Density (Air=1): Not determined

Specific Gravity (H₂O=1, at 4 °C): 1.01

pH: Not determined

Water Solubility: Slight

Boiling Point: Not determined

Evaporation Rate: Not determined

VOC: 0

Percent Volatile: Negligible

Section 4 - Fire-Fighting Measures

Flash Point: >200° F (>93° C)

Flash Point Method: Estimated

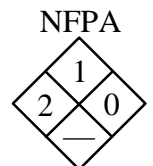
LEL: Not established

UEL: Not established

Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

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

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



Section 5 - Stability and Reactivity

Stability: Stable

Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities: Strong oxidizers, acids, and bases.

Conditions to Avoid: Excessive heat for prolonged periods of time.

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

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Dermal; heated product may produce inhalable vapors.

Medical Conditions Aggravated by Exposure: Skin, eye and pulmonary conditions.

Overexposure Effects: Causes irritation if inhaled and can cause skin irritation, eye irritation, and allergic skin reaction. May be harmful if swallowed. May have effect on the liver.

Chronic Effects: Overexposure may have effects on liver

Carcinogenicity: Contains DeMDA which is a possible animal carcinogen.

Emergency and First Aid Procedures

Inhalation: Remove to fresh air. Call a physician.

Eye Contact: Immediately flush eyes with water for at least 15 minutes. Call a physician.

Skin Contact: Immediately wash with soap and water. Remove contaminated clothing and launder before use. Destroy contaminated shoes.

Ingestion: If conscious give 2-4 glasses of water to drink. Do not induce vomiting. Call a physician.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

Section 7 - Spill, Leak, and Disposal Procedures

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

Disposal Considerations: Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

Ecological Information: N/A

Toxicological Information:

Acute Oral Effects (LD50): Benzenamine, 4,4'-Methylenebis [2-Ethyl- = 742 mg/kg (rat)

Formaldehyde, polymer with 2-ethylbenzeneamine = 1000 mg/kg (rat)

Acute Inhalation Exposure Effects: Respiratory irritant.

Sensitization: Possible in susceptible individuals.

Skin Irritation: Irritant.

Eye irritation: Irritant.

Chronic Exposure Effects: For Benzenamine, 4,4'-methylenebis(2-ethyl-: There is experimental evidence that analogous substances have caused tumors in rodents. Analogous substances have caused damage to liver and thyroid in test animals.

Regulatory Information:

US Federal Regulations:

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazardous Communication Standard 29 CFR 1910,1200. This product is considered to be a hazardous chemical under that standard.

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

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40CFR 372).

Revision:**Freeman 1066 Hardener Black**

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.

TSCA Section 12(b) - Export Notification: This product contains chemicals that are subject to a Section 12(b) export notification.

State Regulations:

California Proposition 65: The following is required composition information. May contain trace amounts of a hexavalent chromium compound.

Diocetyl adipate (CAS Number: 103-23-1) is on Pennsylvania and New Jersey Right to Know Lists

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

Respiratory Protection: Use NIOSH approved organic vapor cartridge respirator when vapor/mist is likely.

Skin Protection: Wear impermeable gloves.

Eye Protection: Wear splash-proof chemical goggles.

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 and Storage:

Signal word: Warning!

Precautions: Causes irritation if inhaled and can cause skin irritation, eye irritation, and allergic skin reaction. May be harmful if swallowed. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Avoid tasting or swallowing. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling. Notice! Overexposure may have effects on liver.

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Resin Compounds , N.O.I.	Packaging Authorizations	Quantity Limitations
Shipping Symbols:	a) Exceptions:	a) Passenger, Aircraft, or Railcar:
Hazard Class: Not Regulated	b) Non-bulk Packaging: X	b) Cargo Aircraft Only:
ID No.:	c) Bulk Packaging:	
Packing Group:	Department of Transportation:	Vessel Stowage Requirements
Label:	Not regulated as a hazardous material by DOT 49 CFR	a) Vessel Stowage:
Special Provisions (172.102):	172.101 hazardous materials table.	b) Other:

Prepared By:

Revision Notes:

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