

Material Safety Data Sheet

Freeman 1035 Part A

MSDS No.

Date of Preparation: January 3, 2007

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Freeman 1035 Part A

Chemical Family: Isocyanate

CAS Number: N/A

Other Designations: N/A

General Use: Polyurethane Elastomer

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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Irritant, possible Sensitizer

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt
Polyurethane Prepolymer	-	95 - 99
Bis (2-ethylhexyl) phthalate	117-81-7	0 - 5
2,4 Toluene Diisocyanate	584-84-9	< 1.0
2,6 Toluene Diisocyanate	91-08-7	< 1.0

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Polyurethane Prepolymer	none estab.	none estab.	none estab.	none estab.
Bis (2-ethylhexyl) phthalate	5 mg/m ³	none estab.	5 mg/m ³	none estab.
2,4 Toluene Diisocyanate	0.005 ppm	none estab.	0.005 ppm	none estab.
2,6 Toluene Diisocyanate	0.005 ppm	none estab.	0.005 ppm	none estab.

Section 3 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Clear yellow viscous liquid

Odor: Sharp pungent odor

Viscosity: 45,000-55,000 cps

Vapor Pressure: None (Polymeric Resin)

Vapor Density (Air=1): >1

Specific Gravity (H₂O=1, at 4 °C): 1.04

pH: N/A

Water Solubility: Negligible

Other Solubilities:

Boiling Point: None (Polymeric Resin)

Freezing/Melting Point: None (Polymeric Resin)

% Volatile: Nil

Evaporation Rate: Not Applicable

Section 4 - Fire-Fighting Measures

Flash Point: >270°F (>132°C)

Flash Point Method: TOC

Burning Rate: Not established

Autoignition Temperature: Not established

LEL: Not established

UEL: Not established

Flammability Classification: Non-Flammable

Extinguishing Media: Water Fog, Dry Chemical, and Carbon Dioxide Foam

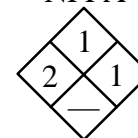
Unusual Fire or Explosion Hazards: Hazardous decomposition products may be formed. Avoid water contamination in closed containers or confined areas as exothermic heat and carbon dioxide can evolve.

Hazardous Combustion Products: N/A

Fire-Fighting Instructions: Fire fighters should wear self-contained breathing apparatus. Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

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Section 5 - Stability and Reactivity

Stability: This product is stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization can occur.

Chemical Incompatibilities: Strong bases, water, amines, alcohols

Conditions to Avoid: Avoid contamination with water and other materials that react with Isocyanates.

Hazardous Decomposition Products: Toluene diisocyanate vapors, hydrogen cyanide gas, oxides of nitrogen, carbon monoxide and carbon dioxide.

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Inhalation and Dermal

Target Organs: Lungs, skin

Acute Effects

Inhalation: Vapors cause irritation to respiratory tract and pulmonary edema can occur after a serious vapor exposure; pulmonary sensitization can occur in some individuals leading to asthma-like spasms of the bronchial tubes and difficulty in breathing; recent studies indicate overexposure with chronic lung impairment.

Eye: May cause irritation, redness, tearing, and blur vision. Prolonged vapor contact may cause conjunctivitis.

Skin: Contact will cause irritation, reddening, swelling, rash, scaling, or blistering. Prolonged or repeated contact can cause moderate dermatitis.

Ingestion: May have corrosive effects on the linings of the mouth and stomach: symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Carcinogenicity: IARC and NTP list Toluene Diisocyanate and Bis (2-ethylhexyl) phthalate as a suspected carcinogens.

Medical Conditions Aggravated by Long-Term Exposure: Asthma, bronchitis, emphysema, skin allergies, eczema.

Emergency and First Aid Procedures

Inhalation: Remove source(s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.

Eye Contact: Flush eyes with plenty of water. If irritation persists, seek medical attention.

Skin Contact: In case of skin contact, wash thoroughly with soap and water; remove contaminated clothing and laundry before reuse: seek medical attention if rash develops.

Ingestion: Do not induce vomiting unless instructed by a physician. Contact physician immediately.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 7 - Spill, Leak, and Disposal Procedures

Spill /Leak Procedures: Only properly protected personnel should remain in the spill area; dike and contain spill; absorb or scrape up excess into suitable container for disposal; wash area with dilute ammonia solution. Stop or reduce discharge if it can be done safely.

Small Spills:

Large Spills

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup:

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements: This material contains a hazardous constituent as identified in RCRA, Title 40 CFR 261, Appendix VIII and must be disposed of in accordance with applicable Federal, state, and local regulations.

Toxicological Information:

Eye Effects: Irritation

Carcinogenicity: IARC and NTP list Toluene Diisocyanate and Bis(2-ethylhexyl) phthalate

Skin Effects: Irritation

as a suspected carcinogens.

Mutagenicity: None Determined. **Teratogenicity:** None Determined

Ecological Information: None established

EPA Regulations:

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

CERCLA Hazardous Substance (40 CFR 302.4) listed specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112:

<u>Chemical Name</u>	<u>RQ</u>	<u>% Reportable Component</u>
Bis (2-ethylhexyl) phthalate	100 lbs.	5.0 Max
Toluene diisocyanate (mixed isomers)	100 lbs.	<1.0

SARA Toxic Chemical (40 CFR 372.65):

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Bis (2-ethylhexyl) phthalate	117-81-7	5.0 Max
Toluene diisocyanate (mixed isomers)	26471-62-5	<1.0

SARA EHS (Extremely Hazardous Substance) (40 CFR 355):

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Toluene diisocyanate (mixed isomers)	26471-62-5	<1.0

TSCA Inventory Status (40 CFR710): All components of this formulation are listed in the TSCA Inventory.

State Regulations:

California Proposition 65: This product contains toluene diisocyanate and Bis (2-ethylhexyl) phthalate, which in the State of California have found to cause cancer, birth defects or other reproductive harm.

2,4 Toluene Diisocyanate (CAS # 584-84-9) and 2,6 Toluene Diisocyanate (CAS # 91-08-7) are found on the New Jersey, Pennsylvania and Massachusetts Right to Know Lists

Bis (2-ethylhexyl) phthalate (CAS # 117-81-7) is found on the New Jersey, Pennsylvania and Massachusetts Right to Know Lists.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA..

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

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

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

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 Precautions: Minimize breathing of vapors and avoid prolonged or repeated contact with skin. Wear proper protective equipment. If ventilation is not sufficient, wear proper respiratory equipment. Avoid moisture contamination. Reseal partial containers. Use good general housekeeping procedures.

Storage Requirements: Store in cool, dry, well-ventilated area.

DOT Transportation Data (49 CFR 172.101): Not Classified

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Material Safety Data Sheet

Freeman 1035 Part B

MSDS No.

Date of Preparation: January 3, 2007

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Freeman 1035 Part B

Chemical Family: Polyol

CAS Number: N/A

Other Designations: N/A

General Use: Polyurethane Elastomer

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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Irritant

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt or % vol
New Jersey #221290880-5051P	Proprietary	5 - 7
Diethyltoluenediamine	68479-98-1	1 - 5
Di(methylthio)toluene diamine	106264-74-3	5 - 10

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
#221290880-5051P	none estab.	none estab.	none estab.	none estab.
Diethyltoluenediamine	none estab.	none estab.	none estab.	none estab.
Di(methylthio)toluene diamine	none estab.	none estab.	none estab.	none estab.

Section 3 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Brown Liquid

Odor: Sharp pungent odor

Viscosity: 200-400 cps

Vapor Pressure: None (Polymeric Resin)

Vapor Density (Air=1): >1

Specific Gravity (H₂O=1, at 4 °C): 0.95

Water Solubility: Negligible

Boiling Point: None (Polymeric Resin)

Freezing/Melting Point: None determined

Refractive Index: N/A

Surface Tension: N/A

% Volatile: Nil

Evaporation Rate: None (Polymeric Resin)

Section 4 - Fire-Fighting Measures

Flash Point: >270 °F (132 °C)

Flash Point Method: COC

Burning Rate: N/A

Autoignition Temperature: N/A

LEL: Not established

UEL: Not established

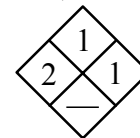
Flammability Classification: Non-Flammable

Extinguishing Media: Water fog, dry chemical, and carbon dioxide foam.

Unusual Fire or Explosion Hazards: None

Hazardous Combustion Products: N/A

NFPA



Fire-Fighting Instructions: Fire fighters should wear self-contained breathing apparatus. Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

Section 5 - Stability and Reactivity

Stability: This product is stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization cannot occur.

Chemical Incompatibilities: Strong acids and oxidizers.

Conditions to Avoid: Avoid contamination with water and other materials that react with amines.

Hazardous Decomposition Products: Oxides of nitrogen, carbon monoxide and carbon dioxide.

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Dermal

Target Organs: Pancreas, liver, thyroid and eyes.

Acute Effects

Inhalation: Vapors, which are not significant unless heated or sprayed can cause irritation to respiratory tract.

Eye: May cause irritation, redness, tearing, and blur vision. Prolonged vapor contact may cause conjunctivitis.

Skin: Contact will cause irritation, reddening, swelling.

Ingestion: May have corrosive effects on the linings of the mouth and stomach; symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Carcinogenicity: IARC, NTP, and OSHA do not list any components of this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Pre-existing skin disorders.

Emergency and First Aid Procedures

Inhalation: Remove source(s) of contamination and move victim to fresh air.

Eye Contact: Flush eyes with plenty of water. If irritation persists, seek medical attention.

Skin Contact: In case of skin contact, wash thoroughly with soap and water; remove contaminated clothing and launder before reuse; seek medical attention if rash develops.

Ingestion: Do not induce vomiting unless instructed by a physician. Contact physician immediately.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians: N/A

Special Precautions/Procedures: N/A

Section 7 - Spill, Leak, and Disposal Procedures

Spill /Leak Procedures: Dike and contain spill; absorb or scrape up excess into suitable container for disposal. Stop or reduce discharge if it can be done safely.

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements: This material contains a hazardous constituent as identified in RCRA, Title 40 CFR 261, Appendix VIII and must be disposed of in accordance with applicable Federal, state and local regulations.

Toxicological Information:

Acute Inhalation Effects: Human, inhalation, TCL: Not Determined

Acute Oral Effects: A two year feeding study in rats showed diethyltoluene diamine caused effects in the pancreas, liver, thyroid and eyes. Also, an increase in the number of tumors in the liver and possibly mammary gland of female rats was found.

Reproductive Toxicity: None established

Mutagenicity: None established

Teratogenicity: None established

Sensitization: None established

Ecological Information: None established.

EPA Regulations:

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

CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112:

Components That Require Reporting
Mercury (as part of catalyst)

RQ
1 lb.

% of Reportable Component
0.03 Max

SARA Toxic Chemical (40 CFR 372.65): None

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): None

TSCA Inventory Status (40 CFR 710): All components of this formulation are listed in the TSCA Inventory.

State Regulations:

California Proposition 65: This product does not intentionally contain any chemicals, which have been identified by the state of California to cause cancer, birth defects or other reproductive harm.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

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

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

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 Precautions: Minimize breathing of vapors and avoid prolonged or repeated contact with skin. Wear proper protective equipment. If ventilation is not sufficient, wear proper respiratory equipment. Use good general housekeeping procedures.

Storage Requirements: Store in cool dry, well-ventilated area.

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DOT Transportation Data (49 CFR 172.101): Not Classified

Prepared By:

Revision Notes:

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