

Section 1 Identification

Product identifiers

Freeman 2040PL Polyurethane Elastomer Part A

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

Identified uses: Component for Polyurethane Mold Rubber. For Industrial/Professional Use Only

Details of the supplier of the safety data sheet:

Freeman Manufacturing & Supply Company

1101 Moore Road, Avon, OH 44011 USA

Telephone: (440) 934-1902

E-mail: contactus@freemansupply.com

24 Hour Emergency Number

CHEMTREC: (800) 424-9300

Section 2 Hazards Identification

GHS Classification in accordance with 29 CFR 1910.1200

Acute Toxicity (Inhalation) Category 4

Skin Irritation, Category 2

Eye Irritation, Category 2A

Respiratory Sensitization, Category 1

Skin Sensitization, Category 1

Carcinogenicity, Category 2

Label Elements



Danger

Hazard Statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H351 Suspected of causing cancer.

Precautionary Statements

P203 Obtain, read and follow all safety instructions before use.

P261 Avoid breathing fumes, vapors, mists or sprays.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated clothing should not be allowed out of the workplace.

P280 Wear protective gloves, protective clothing, eye protection, and face protection.

P284 In case of inadequate ventilation wear respiratory protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P317 Get medical help.

P318 IF exposed or concerned, get medical advice.

P333+P317 If skin irritation or rash occurs: Get medical help.

P337+P317 If eye irritation persists: Get medical help.

P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.

P362+P364 Take off contaminated clothing and wash before reuse.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local, regional and national regulations.

Section 2 Hazards Identification

Supplemental Information:

Individuals sensitized to isocyanates should discontinue use. Long-term overexposure to isocyanates may cause lung damage. This is one part of a two-part system. Read and understand the hazard information on part B before using.

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
Polyether polyol-TDI prepolymer	9057-91-4	85-90
Toluene Diisocyanate (TDI)	26471-62-5	≤2

Other ingredients are not listed because they are either not hazardous or are below concentration/cut-off thresholds.

Section 4 First Aid Measures

Description of first aid measures

Eye Contact: Rinse thoroughly with water for at least 15 minutes, holding the eyelids open to be sure the material is washed out. Get medical attention if irritation develops or persists.

Skin Contact: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before reuse. Discard items that cannot be decontaminated.

Inhalation: Remove person to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Ingestion: Do not induce vomiting unless instructed by a physician. Never give anything by mouth to an unconscious person. Get medical attention if you feel unwell.

Most Important Symptoms/Effects

Causes skin and eye irritation. Vapors or mists may cause respiratory irritation. May cause allergic skin and/or respiratory reaction in sensitized persons. Symptoms include skin rash, wheezing, shortness of breath, and other asthma symptoms.

Indication of Immediate Medical Attention/Special Treatment

Immediate medical attention is required for asthmatic symptoms or serious inhalation exposures. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Persons sensitized to Diisocyanates should consult a physician before working with respiratory irritants or sensitizers.

Section 5 Fire-Fighting Measures

Extinguishing Media

Use water fog, foam, carbon dioxide, or dry chemical. Do not use solid water stream. Solid stream of water into hot product may cause violent steam generation or eruption.

Special Hazards

Not classified as flammable or combustible. Product will burn under fire conditions.

Advice for Firefighters

Wear positive pressure, self-contained breathing apparatus, and full-body protective clothing. Cool fire-exposed containers with water.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Remove all ignition sources. Clear non-emergency personnel from the area. Ventilate area. Wear appropriate protective clothing to prevent eye and skin contact and respiratory protection.

Section 6 Accidental Release Measures

Methods and Material for Containment and Cleanup

Cover with an inert absorbent material and collect into an appropriate container for disposal. Do not seal the container since carbon dioxide is generated on contact with moisture and dangerous pressure buildup can occur. Decontaminate floor area with a mixture of water plus isopropyl alcohol (10-20%), household ammonia (10%), and detergent (2%).

Section 7 Handling and Storage

Precautions for Safe Handling

Avoid breathing vapors or mists. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not eat, drink, or smoke in the work area. Keep container closed when not in use.

Conditions for Safe Storage, Including any Incompatibilities

Store indoors at temperatures between 55°F and 95°F (13°C and 35°C). Store in original, unopened containers. Protect from atmospheric moisture and water since TDI reacts with water to form carbon dioxide leading to potentially dangerous pressure build up in sealed containers.

Section 8 Exposure Controls/Personal Protection

Occupational Exposure Limits

Component	CAS Number	OSHA PEL	ACGIH TLV
Toluene Diisocyanate	26471-62-5	0.2 ppm (Ceiling)	0.005 ppm TWA 0.02 ppm STEL

Exposure Controls

Ventilation: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Respiratory Protection: If needed (i.e., ventilation is inadequate), use a NIOSH-approved air-purifying, tight-fitting, half-face respirator with organic vapor cartridges. Respirator selection and use should be based on contaminant type, form, and concentration. For higher exposures or in an emergency, use a supplied-air respirator. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Skin Protection: Wear impervious gloves, such as butyl rubber or nitrile rubber. Wear impervious clothing to prevent skin contact and contamination of personal clothing.

Eye Protection: Wear chemical safety goggles/glasses.

Other Protective Measures

An eye wash and washing facility should be available in the work area. Follow good Industrial Hygiene practices.

Section 9 Physical and Chemical Properties

Appearance	Translucent pale yellow to amber liquid	Flammability Limits	No data available
Odor	Slightly sweet	Vapor Pressure	≤0.01 mm Hg @ 20°C
Odor Threshold	Not determined	Vapor Density	No data available
pH	Not applicable	Relative Density	1.05 at 25°C
Melting Point	No data available	Solubility	Insoluble in water
Boiling Point	No data available	Coefficient: n-Octanol/Water	Reacts with water
Flash Point	>350°F (>177°C) estimated	Auto-Ignition Temperature	No data available
Evaporation Rate	No data available	Decomposition Temperature	No data available
		Viscosity	5,000-10,000 cP

Section 10 Stability and Reactivity

Reactivity

Diisocyanates react with many materials and the rate of reaction increases with temperature. Reaction with water generates carbon dioxide and heat.

Chemical Stability

Stable under recommended conditions.

Possibility of Hazardous Reactions

Elevated temperatures can cause hazardous polymerization. Polymerization can be catalyzed by strong bases or water. Reaction with water generates carbon dioxide, and results in heat and pressure buildup in closed systems.

Conditions to Avoid

Avoid moisture and temperatures below 55°F (13°C) and above 95°F (35°C) to protect product integrity.

Incompatible Materials

Avoid contact with water, acids, bases, alcohols, strong oxidizers, and some metals (e.g., aluminum, zinc, brass, tin, copper).

Hazardous Decomposition Products

Possibly isocyanate vapor, carbon monoxide, nitrogen oxides, and traces of hydrogen cyanide.

Section 11 Toxicological Information

Acute Toxicity Values

Component	CAS Number	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Toluene Diisocyanate (TDI)	26471-62-5	>2,00 mg/kg (rat)	>9,400 mg/kg (rabbit)	0.24 mg/L 4 hr. (Rat)

Information on Toxicological Effects

Eye Contact: Causes serious eye irritation.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Inhalation: At room temperature, vapors are minimal due to low volatility. Vapors or aerosols (e.g., generated during heating or spraying) may cause respiratory irritation and possibly pulmonary edema, or respiratory sensitization. For individuals sensitized to TDI, exposure may result in allergic respiratory reactions (e.g., coughing, wheezing, difficulty breathing).

Ingestion: No data available.

Chronic Health Effects: Repeated or prolonged exposure to isocyanates may cause an allergic sensitization of the respiratory tract causing an asthma-like response upon re-exposure. Repeated overexposure to isocyanates has been associated with decreased lung function. Repeated or prolonged dermal contact with this product may cause allergic skin sensitization in some individuals. No test data. Product is not expected to be a mutagen or reproductive toxin.

Carcinogenicity: IARC (TDI): 2B carcinogen. NTP (TDI): Reasonably anticipated to be a human carcinogen

OSHA: Not classified as carcinogens

Specific Target Organ Toxicity (STOT): No data available

Section 12 Ecological Information

This product reacts with water to form insoluble polyureas. Movement in the aquatic and terrestrial environment would be limited. Product is not readily biodegradable and not expected to bioaccumulate.

Section 13 Disposal Considerations

Dispose according to local, state, and federal regulations. Upon exposure to moisture, product forms an inert, non-hazardous solid. In the U.S., this product is not a RCRA hazardous waste (per 40 CFR 261).

Section 14 Transport Information

Not regulated for transport in any mode.

Section 15 Regulatory Information

US Federal Regulations


CERCLA Reportable Quantity: RQ for TDI is 100 lb. Some States have more stringent requirements. Report spills in accordance with local and state regulations.

SARA TITLE III Section 311/312: See Section 2

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: Toluene Diisocyanate CAS 26471-62-5 ≤2%

EPA Toxic Substances Control Act (TSCA): Components of this product are listed on the TSCA inventory.

US State Regulations

California Proposition 65:  WARNING: This product can expose you to chemicals including Toluene Diisocyanate (TDI), which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Section 16 Other Information

Training Advice

Train personnel using this product in proper chemical handling, engineering controls, and protective equipment.

Recommended Uses and Restrictions

This product is intended for industrial/professional use only.

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

Freeman 2040PL Polyurethane Elastomer Part B

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

Identified uses: Component for Polyurethane Mold Rubber. For Industrial/Professional Use Only

Details of the supplier of the safety data sheet:

Freeman Manufacturing & Supply Company
 1101 Moore Road, Avon, OH 44011 USA
 Telephone: (440) 934-1902
 E-mail: contactus@freemansupply.com

24 Hour Emergency Number
CHEMTREC: (800) 424-9300

Section 2 Hazards Identification

GHS Classification in accordance with 29 CFR 1910.1200

Eye Irritation, Category 2A
 Specific Target Organ Toxicity – Repeated Exposure, Category 2
 Aquatic Chronic Toxicity, Category 2

Label Elements



Warning

Hazard Statements

H319 Causes serious eye irritation.
 H373 May cause damage to pancreas through prolonged or repeated exposure.
 H411 Toxic to aquatic life with long-lasting effects.

Precautionary Statements

P203 Obtain, read and follow all safety instructions before use.
 P260 Do not breathe fumes, vapors, mists or sprays.
 P264 Wash thoroughly after handling.
 P273 Avoid release to the environment.
 P280 Wear protective gloves, protective clothing, eye protection, and face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical advice or attention.
 P319 Get medical help if you feel unwell.
 P362+P364 Take off contaminated clothing and wash before reuse.
 P405 Store locked up.
 P501 Dispose of contents and container in accordance with local, regional and national regulations.

Supplemental Information:

This is one part of a two-part system. Read and understand the hazard information on part A before using.

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
Diethyltoluenediamine	68479-98-1	10 - 15

Other ingredients are not listed because they are either not hazardous or are below concentration/cut-off thresholds.

Section 4 First Aid Measures

Description of first aid measures

Eye Contact: Rinse thoroughly with water for at least 15 minutes, holding the eyelids open to be sure the material is washed out. Get medical attention if irritation develops or persists.

Skin Contact: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before reuse. Discard items that cannot be decontaminated.

Inhalation: Remove person to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Ingestion: Do not induce vomiting unless instructed by a physician. Never give anything by mouth to an unconscious person. Get medical attention if you feel unwell.

Most Important Symptoms/Effects

May cause mild eye and skin irritation. May be harmful if swallowed.

Indication of Immediate Medical Attention/Special Treatment

Not expected to be required.

Section 5 Fire-Fighting Measures

Extinguishing Media

Use water fog, foam, carbon dioxide, or dry chemical. Do not use solid water stream. Solid stream of water into hot product may cause violent steam generation or eruption.

Special Hazards

Not classified as flammable or combustible. Product will burn under fire conditions.

Advice for Firefighters

Wear positive pressure, self-contained breathing apparatus, and full-body protective clothing. Cool fire-exposed containers with water.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Remove all ignition sources. Clear non-emergency personnel from the area. Ventilate area. Wear appropriate protective clothing to prevent eye and skin contact. Avoid breathing vapors. Wear respiratory protection. Caution – spill area may be slippery.

Methods and Material for Containment and Cleanup

Cover with an inert absorbent material and collect into an appropriate container for disposal. Avoid releases to the environment. Report spills and releases as required to the appropriate authorities.

Section 7 Handling and Storage

Precautions for Safe Handling

Avoid breathing vapors or mists. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not eat, drink, or smoke in the work area. Keep container closed when not in use.

Conditions for Safe Storage, Including any Incompatibilities

Store indoors at temperatures below 120°F (49°C). Store in original, unopened containers. Protect from atmospheric moisture and water. Keep container tightly closed.

Section 8 Exposure Controls/Personal Protection

Occupational Exposure Limits

None established

Exposure Controls

Ventilation: Use with adequate general or local exhaust ventilation to minimize exposure levels.

Section 8 Exposure Controls/Personal Protection

Respiratory Protection: If needed (i.e., ventilation is inadequate), use a NIOSH-approved air-purifying, tight-fitting, half-face respirator with organic vapor cartridges. Respirator selection and use should be based on contaminant type, form, and concentration. For higher exposures or in an emergency, use a supplied-air respirator. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Skin Protection: Wear impervious gloves, such as butyl rubber or nitrile rubber. Wear impervious clothing to prevent skin contact and contamination of personal clothing.

Eye Protection: Wear chemical safety goggles/glasses.

Other Protective Measures

An eye wash and washing facility should be available in the work area.

Follow good Industrial Hygiene practices.

Section 9 Physical and Chemical Properties

Appearance	Various colors, liquid	Vapor Pressure	<0.01 mm Hg @ 20°C
Odor	Slightly pungent	Vapor Density	No data available
Odor Threshold	Not determined	Relative Density	Approximately 1.0 at 25°C
pH	Not applicable	Solubility	Slightly soluble in water
Melting Point	No data available	Coefficient: n-Octanol/Water	No data available
Boiling Point	No data available	Auto-Ignition Temperature	No data available
Flash Point	>350°F (>176.7°C) est.	Decomposition Temperature	No data available
Evaporation Rate	No data available	Viscosity	150-1,500 cP
Flammability Limits	No data available		

Section 10 Stability and Reactivity

Reactivity

No reaction under normal conditions.

Chemical Stability

Stable under recommended conditions.

Possibility of Hazardous Reactions

Reaction with strong oxidizers generates heat.

Conditions to Avoid

Avoid excessive heat.

Incompatible Materials

Avoid contact with strong oxidizers.

Hazardous Decomposition Products

Thermal decomposition will generate oxides of carbon and nitrogen, organic acids, and other toxic organic compounds.

Section 11 Toxicological Information

Acute Toxicity Values

Diethyltoluenediamine: Oral rat LD50 738 mg/kg; Inhalation rat LC50 2.45 mg/L/1 hr.;

Dermal rabbit LD50 >2000 mg/kg

Information on Toxicological Effects

Eye Contact: May cause moderate to severe eye irritation.

Skin Contact: May cause mild skin irritation.

Inhalation: Vapors and mists may cause mild respiratory irritation.

Ingestion: Single oral dose toxicity is low. No harmful effects anticipated from ingesting small amounts incidental to normal handling. Large amounts may cause gastrointestinal effects.

Chronic Health Effects: No data available.

Respiratory Sensitization: Components are not classified as respiratory sensitizers.

Section 11 Toxicological Information

Skin Sensitization: Components are not classified as skin sensitizers.
Germ Cell Mutagenicity: Components are not classified as mutagens.
Carcinogenicity: Components are not classified as carcinogens
Specific Target Organ Toxicity (STOT) - Single Exposure: No data available.
Specific Target Organ Toxicity (STOT) - Repeat Exposure: In animal studies, diethyltoluenediamine caused adverse effects in the pancreas at 8-10 mg/kg. At higher doses, effects were seen in the liver and thyroid as well. May cause damage to the pancreas through prolonged or repeated exposure.

Section 12 Ecological Information

Ecotoxicity: Diethyltoluenediamine (Fish LC50 200 mg/L/48 hr; Daphnia EC50 0.5 mg/L/48 hr). Product is classed as hazardous to the aquatic environment.
Persistence and Degradability: Not readily biodegradable.
Bioaccumulative Potential: Not expected to bioaccumulate.
Mobility in Soil: No data available.

Section 13 Disposal Considerations

Dispose according to local, state, and federal regulations.

Section 14 Transport Information

Not regulated as a hazardous material by US DOT (49 CFR 171).
 For International shipments, the following shipping description applies:
 UN3082, Environmentally hazardous substance, liquid, n.o.s. (Diethyltoluenediamine), 9, III
 EMERGENCY SHIPPING: CHEMTREC, 800-424-9300 or +1-703-527-3887

Section 15 Regulatory Information

US Federal Regulations

CERCLA Reportable Quantity: This product is not subject to reporting under CERCLA. Some states have more stringent reporting requirements. Report all spills in accordance with local, state, and federal regulations.
SARA TITLE III Section 311/312: See Section 2
Section 313 Toxic Chemicals: This product contains no chemicals subject to SARA Title III Section 313 Reporting requirements.
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA): Components of this product are listed on the TSCA inventory.

US State Regulations

California Proposition 65: This product does not contain substances known to the State of California to cause cancer and/or reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 16 Other Information

Training Advice

Train personnel using this product in proper chemical handling, engineering controls, and protective equipment.

Recommended Uses and Restrictions

This product is intended for industrial/professional use only.

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.