

Section 1 Identification

Product Identifiers

Product name: Freeman 2040 Part A

Relevant Identified Uses of the Substance or Mixture

Component for Polyurethane Mold Rubber. 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)

Acute Toxicity, Inhalation, Category 4

Skin Irritation, Category 2

Eye Irritation, Category 2A

Respiratory Sensitization, Category 1

Skin Sensitization, Category 1

Specific Target Organ Toxicity Single Exposure, Category 3

GHS Label Elements, Including Precautionary Statements



Signal word

Danger

Hazard Statements

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

Harmful if inhaled.

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

May cause respiratory irritation.

Suspected of causing cancer.

Precautionary Statements

Prevention

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

Avoid breathing vapors or mists.

Wash thoroughly after handling.

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

In case of inadequate ventilation, wear respiratory protection.

Take off contaminated clothing and wash before reuse.

Section 2 Hazards Identification continued

Response

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

If exposed or concerned: Get medical attention.

Storage

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

Disposal

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

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 (%)
Toluene Diisocyanate	26471-62-5	≤ 2
Polyether polyol-TDI prepolymer	9057-91-4	50-80

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 prompt medical attention.

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 re-use. 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 directed to do so by medical personnel. Get medical attention.

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.

Section 4 First-Aid Measures continued

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. Person receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Persons sensitized to diisocyanates should consult a physician before work 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. Combustion products include oxides of carbon and nitrogen, isocyanates, hydrogen cyanide, dense smoke.

Special Protective Equipment & Precautions for Fire-Fighters

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

Methods and Materials for Containment and Cleanup

Cover with an inert absorbent material and collect into an appropriate container for disposal. Do not seal the container since CO₂ is generated on contact with moisture and dangerous pressure buildup can occur. Decontaminate floor area with a mixture of water plus isopropyl alcohol (20%), household ammonia (10%), and detergent (2%).

Section 7 Handling and Storage

Safe Handling

Avoid breathing vapors or mists. Use with adequate ventilation. Avoid contact with the 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.

Safe Storage

Store indoors at temperatures between 55°F and 95°F. Store in original, unopened containers. Protect from atmospheric moisture and water since isocyanates react with water to form CO₂ leading to potentially dangerous pressure build up in sealed containers.

Section 8 Exposure Controls/Personal Protection

Occupational Exposure Limits

Chemical Name	CAS Number	TWA-ACGIH-TLV	STEL-ACGIH-TLV	OSHA-PEL
Toluene Diisocyanate	26471-62-5	0.005 ppm	0.02 ppm	0.005 ppm

Ventilation

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

Respiratory Protection

If needed, use an approved 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.

Skin Protection

Wear impervious gloves, such as butyl rubber or nitrile rubber.

Eye Protection

Wear chemical safety glasses or goggles.

Other Protective Measures

Wear impervious clothing to prevent skin contact and contamination of personal clothing. An eye wash facility and washing facility should be available in the work area. Follow applicable regulations and good Industrial Hygiene practice.

Section 9 Physical and Chemical Properties

Appearance	Clear pale yellow to amber liquid
Odor	Pungent, slightly sweet
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>350°F (177°C) estimated
Evaporation Rate	No data available
Flammability Limits	No data available
Vapor Pressure	≤ 0.1 mm Hg @ 25°C
Vapor Density	No data available
Relative Density	1.05 @ 25°C
Solubility	Insoluble in water
Coefficient: n-Octanol/Water	Reacts with water
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	500-6,500 cP @ 25°C

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 and above 95°F to protect product integrity and prevent pressure buildup in closed containers.

Incompatible Materials

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

Hazardous Decomposition Products

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

Section 11 Toxicological Information

Eye Contact

Causes serious eye irritation. May cause temporary corneal injury.

Skin Contact

Causes skin irritation. Repeated skin contact may cause an allergic skin reaction. Skin contact may elicit respiratory sensitization.

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. May cause respiratory sensitization. For individuals sensitized to isocyanates, exposure may result in allergic respiratory reactions (e.g., coughing, wheezing, difficulty breathing).

Ingestion

Single oral dose toxicity is low. May cause adverse gastrointestinal effects.

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 or respiratory sensitization in some individuals. Products are not expected to be mutagens or reproductive toxins.

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)	LC ₅₀ ATE _{mix} (Calculated)
Toluene Diisocyanate	0.48 mg/L/1 hr. (aerosol) (equivalent 0.24mg/L/4 hr.)	>2,000 mg/kg	>9,400 mg/kg	12.0 mg/L/4 hr.

Section 11 Toxicological Information continued

Carcinogenicity

Toluene Diisocyanate is an IARC 2B carcinogen and classified as reasonably anticipated to be a human carcinogen by NTP. No other ingredients are classified as carcinogens by IARC, NTP, or OSHA.

Specific Target Organ Toxicity

Single Exposure: Classified as STOT-SE Category 3 for respiratory irritation.
 Repeat Exposure: Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to toluene diisocyanate aerosols.

Section 12 Ecological Information

Toxicity

These products react with water to form insoluble polyureas. Movement in the aquatic and terrestrial environment is expected to be limited. They are not readily biodegradable and are not expected to bioaccumulate.

Section 13 Disposal Considerations

Disposal

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

Section 14 Transport Information

U.S. DOT

Not regulated for transport.

IMDG

Not regulated for transport.

AIR/IATA

Not regulated for transport.

Emergency Shipping Information

Call CHEMTREC, 800-424-9300.

Section 15 Regulatory Information

U.S. Federal Regulations

CERCLA 103 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: Acute Health, Chronic Health

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): All components of this product are listed on TSCA.

Section 15 Regulatory Information continued

State Regulations

California Proposition 65: This product can expose you to chemical including Toluene Diisocyanate (TDI), which is known to the State of California to cause cancer.

Section 16 Other Information

Training Advice

All personnel using/handling these products should be trained in proper chemical handling and the need for, and use of, 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

Product name: Freeman 2040 Part B

Relevant Identified Uses of the Substance or Mixture

Component for Polyurethane Mold Rubber. 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

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

Section 2 Hazards Identification

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

Specific Target Organ Toxicity – Repeated Exposure, Category 2

GHS Label Elements, Including Precautionary Statements



Signal word

Warning!

Contains Diehtyltoluenediamine

Hazard Statements

May cause damage to organs (pancreas) through prolonged or repeated exposure.

Precautionary Statements

Prevention

Do not breathe vapors.

Wash thoroughly after handling.

Wear eye and face protection.

Response

Get medical advice if you feel unwell.

Disposal

Dispose of contents and container in accordance with local 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	GHS Classification	%
Diethyltoluenediamine	68479-98-1	Acute Toxicity – Oral 4 Acute Toxicity – Dermal 4 Eye Irritation – 2 STOT-RE – 2 Aquatic Toxicity – Acute 1 Aquatic Toxicity – Chronic 1	1-5
Exact concentrations are withheld as trade secret. Other ingredients are not classified as health, physical, or environmental hazards, or are present below cut-off/concentration limits.			

Section 4 First-Aid Measures

Description of First Aid Measures

Eye Contact

Rinse thoroughly with water, holding the eyelids open to be sure the material is washed out. Remove contact lenses if safe and easy to do. Continue rinsing. Get medical attention if irritation persists.

Skin Contact

Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation persists.

Inhalation

Remove person to fresh air. Get medical attention if symptoms persist.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

Most Important Symptoms/Effects

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

Indication of Immediate Medical Attention/Special Treatment

Need for immediate medical attention is not anticipated.

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.

Special Protective Equipment & Precautions for Fire-Fighters

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. Wear appropriate protective clothing to prevent eye and skin contact and avoid breathing vapors. Caution – spill area may be slippery.

Methods and Materials 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 appropriate authorities.

Section 7 Handling and Storage

Safe Handling

Use with adequate ventilation. Avoid contact with the 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.

Safe Storage

Store indoors at temperatures below 120°F (49°C). Store in original containers. Avoid getting moisture into containers. Keep containers tightly closed.

Section 8 Exposure Controls/Personal Protection

Occupational Exposure Limits

None established.

Ventilation

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

Respiratory Protection

If needed, an approved respirator with organic vapor cartridges may be used. 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.

Skin Protection

Wear impervious gloves, such as butyl rubber or nitrile rubber.

Eye Protection

Wear chemical safety glasses or goggles.

Other Protective Measures

Wear impervious clothing to prevent skin contact and contamination of personal clothing. An eye wash and washing facility should be available in the work area. Follow applicable regulations and good Industrial Hygiene practice.

Section 9 Physical and Chemical Properties

Appearance	Opaque orange liquid
Odor	Slightly pungent
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>350°F (177°C)
Evaporation Rate	No data available

Section 9 Physical and Chemical Properties continued

Flammability Limits	No data available
Vapor Pressure	< 0.1 mm Hg @ 25°C
Vapor Density	No data available
Relative Density	~1.0 @ 25°C
Solubility	Slightly soluble in water
Coefficient: n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	250-600 cP @ 25°C

Section 10 Stability and Reactivity

Reactivity

Not normally reactive.

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

Eye Contact

May cause moderate 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

Not determined, but based on laboratory animal studies, diethyltoluenediamine ingredient may cause damage to the pancreas, liver, thyroid, and eyes through prolonged exposure.

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)
Diethyltoluenediamine	2.45 mg/L/1 hr.	738 mg/kg	>2000 mg/kg

Section 11 Toxicological Information continued

Skin Corrosion/Irritation

Relevant components are not skin irritants.

Eye Damage/Irritation

Relevant compounds are not eye irritants.

Respiratory Irritation

Relevant components are not classified as respiratory irritants.

Respiratory Sensitization

Relevant components are not respiratory sensitizers.

Skin Sensitization

Components are not skin sensitizers.

Germ Cell Mutagenicity

Components are not known mutagens.

Carcinogenicity

Components are not known carcinogens.

Reproductive Toxicity

Components are not known reproductive toxins.

Specific Target Organ Toxicity

Single Exposure: May cause skin or eye irritation.

Repeat Exposure: Diethyltoluenediamine may cause damage to the pancreas through repeated or prolonged exposure.

Section 12 Ecological Information

Toxicity

Chemical Name	LC ₅₀ 48 hrs. (Fish)	EC ₅₀ 48 hrs. (Daphnia)
Diethyltoluenediamine	200 mg/L	0.5 mg/L
Based on Additivity Formula, product is not classified 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

Disposal

Dispose according to local, state, and federal regulations.

Section 14 Transport Information

U.S. DOT

Not regulated for transport.

IMDG

Not regulated for transport.

AIR/IATA

Not regulated for transport.

Emergency Shipping Information

Call CHEMTREC, 800-424-9300.

Section 15 Regulatory Information

U.S. Federal Regulations

CERCLA 103 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: Chronic Health

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): All components of this product are listed on TSCA.

State Regulations

California Proposition 65: These products do not contain substances known to the State of California to cause cancer and/or reproductive harm.

Section 16 Other Information

Training Advice

All personnel using/handling these products should be trained in proper chemical handling and the need for, and use of, 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.