

Section 1 Identification

Product Identifiers

Freeman 2040 Part A

Relevant Identified Uses of the Substance or Mixture

Component for two-part mold making polyurethane elastomer. For industrial/professional use only.

Details of the Supplier of the Safety Data Sheet

Freeman Manufacturing & Supply Company
1101 Moore Road, Avon, OH 44011-4043 USA
Telephone: +1 (440) 934-1902
Email: contactus@freemansupply.com

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
Carcinogenicity – Category 2
Reproductive Toxin – Category 2
Specific Target Organ Toxicity – Single Exposure Category 3

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.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.

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 work 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: 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.

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Section 2 Hazards Identification continued

P317 Get medical help.
 P318 IF exposed or concerned, get medical advice.
 P319 Get medical help if you feel unwell.
 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 symptom: Get emergency medical help immediately.
 P362+P364 Take off contaminated clothing and wash before reuse.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 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 (%)
Polyether polyol-TDI prepolymer	9057-91-4	75-80
Toluene diisocyanate	26471-62-5	≤2

Other ingredients are either not classified as health/physical hazards under GHS, or are present below cut-offs/concentration limits.

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 develops or persists. 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 medical attention immediately.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. 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. 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, aerosols, and 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 (12°C to 35°C). Store in original, unopened containers. Protect from atmospheric moisture and water since isocyanates react 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

Chemical Name	CAS Number	OSHA PEL	ACGIH TLV
Toluene diisocyanate (TDI)	26471-62-5	0.02 ppm (C)	0.005 ppm TWA, 0.02 ppm STEL

Ventilation

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

Personal Protective Equipment (PPE)

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.

Eye Protection: Wear chemical safety glasses or goggles.

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Section 8 Exposure Controls/Personal Protection

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	Translucent pale yellow to amber liquid
Odor	Mild acrid
Odor Threshold	No data available
pH	Not applicable
Melting/Freezing Point	No data available
Boiling Point	Slightly sweet
Flash Point	177°C (350°F) estimated
Evaporation Rate	No data available
Flammability Limits	No data available
Vapor Pressure	≤ 0.001 mm Hg at 20°C
Vapor Density	No data available
Relative Density	1.05 at 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	2,200 cP at 25°C

Section 10 Stability and Reactivity

Reactivity

Diisocyanates react with many chemicals, including alcohols and amines, 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 (12°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, and copper).

Hazardous Decomposition Products

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

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Section 11 Toxicological Information

Acute Toxicity Values

Chemical Name	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Toluene diisocyanate (TDI) (CAS 26471-62-5)	>2,000 mg/kg	>9,400 mg/kg	0.48 mg/L, 1 hr (aerosol)

Acute Health Effects

Eye Contact: Causes serious eye irritation.

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

Inhalation: Harmful if inhaled. 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

Respiratory Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Components are not classified as mutagens.

Carcinogenicity: Suspected of causing cancer.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity: May cause respiratory irritation, drowsiness or dizziness.

Section 12 Ecological Information

Ecotoxicity: No data available. Avoid release to the environment.

Persistence and Degradability: Diisocyanates are not readily biodegradable.

Bioaccumulative Potential: Diisocyanates are not expected to bioaccumulate.

Mobility in Soil: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Section 13 Disposal Considerations

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

Section 14 Transport Information

DOT/IATA/IMDG

Not regulated for transport.

Section 15 Regulatory Information

US Federal Regulations

CERCLA HS RQ: This product contains Toluene Diisocyanate (CAS 26471-62-5)

CAA 112(r)(7) TQ: This product contains Toluene Diisocyanate (CAS 26471-62-5)

SARA TITLE III Section 311/312: See Section 2

Section 15 Regulatory Information

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) Status: All of the 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 is known to the State of California to cause cancer. www.P65Warnings.ca.gov

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.

Disclaimer

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Issue Date: October 6, 2021

Previous Revision Date: October 6, 2021

Current Revision Date: February 14, 2025

Section 1 Identification

Product Identifiers

Freeman 2040 Part B

Relevant Identified Uses of the Substance or Mixture

Component for two-part mold making polyurethane elastomer. For industrial/professional use only.

Details of the Supplier of the Safety Data Sheet

Freeman Manufacturing & Supply Company
1101 Moore Road, Avon, OH 44011-4043 USA
Telephone: +1 (440) 934-1902
Email: contactus@freemansupply.com

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

Section 2 Hazards Identification

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

Reproductive Toxin – Category 2
Specific Target Organ Toxicity – Repeated Exposure Category 2
Hazardous to the Aquatic Environment – Acute Hazard Category 2
Hazardous to the Aquatic Environment – Chronic Hazard Category 2

Label Elements



Warning

Hazard Statements

H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.
H412 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.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye protection and face protection.
P318 IF exposed or concerned, get medical advice.
P319 Get medical help if you feel unwell.
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 (%)
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	10-20
Diethyltoluenediamine	68479-98-1	≤10

Other ingredients are either not classified as health/physical hazards under GHS, or are present below cut-offs/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. 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 develops or persists.

Inhalation: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms develop or persist.

Ingestion: If swallowed, rinse mouth. Drink water. Induce vomiting only with medical supervision. Get medical attention if you feel unwell.

Most Important Symptoms/Effects

None known

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.

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

Section 8 Exposure Controls/Personal Protection

Ventilation

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

Personal Protective Equipment (PPE)

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 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	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	>177°C (>350°F)
Evaporation Rate	No data available
Flammability Limits	No data available
Vapor Pressure	< 0.1 mm Hg at 20°C
Vapor Density	No data available
Relative Density	Approximately 1.0 at 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 at 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

Excessive heat and exposure to sunlight.

Incompatible Materials

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

No data available

Acute Health Effects

Eye Contact: May cause mild irritation.

Skin Contact: May cause mild irritation.

Inhalation: May cause mild respiratory irritation.

Ingestion: No data available

Chronic Health Effects

Respiratory Sensitization: None known

Skin Sensitization: None known

Germ Cell Mutagenicity: Components are not classified as mutagens.

Carcinogenicity: Components are not classified as carcinogens.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child

Specific Target Organ Toxicity: May cause damage to organs through prolonged or repeated exposure.

Section 12 Ecological Information

Ecotoxicity: Toxic to aquatic life with long lasting effect. Do not release to the 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

DOT

Non-bulk packages (<119gal or <882lb) are not regulated for transport.

Bulk Packages: UN3082, Environmentally hazardous substance, liquid, n.o.s., (diethylmethylbenzenediamine), 9, III

IATA/IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s., (diethylmethylbenzenediamine), 9, III, MARINE POLLUTANT.

Excepted from IATA and IMDG regulations if shipped in quantities of 5L (1.32gal) or less.

(See IATA SP A197 and IMDG 2.10.2.7).

Section 15 Regulatory Information

US Federal Regulations

CERCLA HS RQ: None

CAA 112(r)(7) TQ: None

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.

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

Section 15 Regulatory Information

US State Regulations

California Proposition 65: WARNING: ⚠ This product can expose you to chemicals including acrylonitrile, which is known to the State of California to cause cancer and/or reproductive harm.
www.P65Warnings.ca.gov

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.

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