

Section 1 Identification

Product Identifiers

Product name: Freeman 50FX Flexible Polyurethane Elastomer Part A (Resin)

Relevant Identified Uses of the Substance or Mixture

Component for Polyurethane Casting/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 2

Respiratory Sensitization, Category 1

Skin Sensitization, Category 1

Specific Target Organ Toxicity Single Exposure, Category 3 (respiratory irritation)

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.

Precautionary Statements

Prevention

Avoid breathing mist, vapors, or spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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 skin irritation or rash occurs: Get medical advice or attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Get medical attention.

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 (%)
4,4'-Methylene di(cyclohexyl isocyanate)	5124-30-1	0-1
4,4'-Methylene di(cyclohexyl isocyanate)/polyether polyol prepolymer	Unknown	60
Other ingredients are not classified as health and/or environmental hazards, and/or are present below cut-off/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 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.

Section 4 First-Aid Measures continued

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. Person receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Persons sensitized to isocyanates should not work with this product.

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 ignition sources. Clear non-emergency personnel from the area. Ventilate area. Wear appropriate protective clothing to prevent eye and skin contact and respiratory protection. 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. 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 60°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	NIOSH
4,4'-Methylene di(cyclohexyl isocyanate)	5124-30-1	0.005 ppm	0.01 ppm

Ventilation

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

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	Translucent liquid
Odor	Mild acrid
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>149°C (300°F)
Evaporation Rate	No data available
Flammability Limits	No data available
Vapor Pressure	≤ 0.001 mm Hg @ 20°C
Vapor Density	No data available
Relative Density	1.0 @ 25°C
Solubility	No data available
Coefficient: n-Octanol/Water	Reacts with water
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	3200 cP @ 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 60°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. Gases are released during decomposition.

Section 11 Toxicological Information

Eye Contact

Causes serious eye irritation. May cause temporary corneal injury.

Skin Contact

Causes skin irritation. Skin contact may cause an allergic skin reaction. Animal studies indicate that skin contact with isocyanates may affect potential 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. No harmful effects anticipated from ingesting small amounts, incidental to normal handling. Large amounts may cause gastrointestinal effects.

Chronic Health Effects

Repeated or prolonged exposure to isocyanates above exposure limits 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.

Acute Toxicity Values

Chemical Name	Standard Draize Test (Skin-Rabbit) 500µL/24 hrs.	Standard Draize Test (Eye-Rabbit) 100µL	Standard Draize Test (Eye-Rabbit) 100µL/24 hrs.	LD ₅₀ (Oral-Rat)
4,4'-Methylene di(cyclohexyl isocyanate)	Moderate	Mild	Severe	9900 mg/kg

Section 11 Toxicological Information continued

Respiratory Sensitization

Isocyanates are respiratory sensitizers.

Skin Sensitization

Isocyanates are skin sensitizers.

Germ Cell Mutagenicity

Product has not been tested for mutagenicity. No ingredients are classified as mutagens.

Carcinogenicity

Product has not been tested for carcinogenicity. No ingredients are designated as carcinogens by NTP, IARC, or OSHA.

Reproductive Toxicity

Product has not been tested for reproductive toxicity. No ingredients present above cut-off levels are classified as reproductive toxins.

Specific Target Organ Toxicity

Single Exposure: No data available.

Repeat Exposure: After repeated exposure, isocyanates can cause respiratory irritation and lung damage.

Section 12 Ecological Information

Ecotoxicity

Not classified as dangerous to aquatic organisms.

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

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

US Federal Regulations

CERCLA 103 Reportable Quantity: This product is not subject to reporting und 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: Diisocyanates Category (N120) 0-1%

Section 302 Extremely Hazardous Substances (TPQ): None

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 Diisononyl Phthalate (DINP), which is known to the State of California to cause cancer. For more information go to 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.

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.

Issue Date: April 22, 2022

Revision Date: October 14, 2022

Section 1 Identification

Product Identifiers

Product name: Freeman 50FX Flexible Polyurethane Elastomer Part B (Hardener)

Relevant Identified Uses of the Substance or Mixture

Component for Polyurethane Casting/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)

Not classified as hazardous.

GHS Label Elements, Including Precautionary Statements

Not classified as hazardous.

Supplemental Information

May cause mild eye and skin irritation. Avoid contact with eyes, skin, and clothing. 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	%
This product is primarily alkyl polyol, plasticizer, and aromatic diamine (<10%). All ingredients are 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 persists.

Skin Contact

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

Inhalation

If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Get medical attention.

Ingestion

If swallowed, rinse mouth. Drink water. Only induce vomiting with medical supervision.

Most Important Symptoms/Effects

Mild skin and eye irritation.

Indication of Immediate Medical Attention/Special Treatment

Not expected to be required.

Section 5 Fire-Fighting Measures

Extinguishing Media

CO₂, dry chemical, foams, or water spray.

Special Hazards

Not classified as flammable or combustible. May generate toxic/irritating compounds and dense smoke in fire conditions.

Special Protective Equipment & Precautions for Fire-Fighters

Wear self-contained breathing apparatus and full-body protective suit. Cool hot 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.

Methods and Materials for Containment and Cleanup

Contain spill and prevent/minimize release to the environment. Absorb spilled material with an inert absorbent. Collect the material into a container. Dispose of residue in accordance with state and local regulations.

Section 7 Handling and Storage

Safe Handling

Avoid breathing vapor. Use in well ventilated area. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke in work area. Wash hands after handling. See Section 8.

Safe Storage

Store indoors at temperatures between 60°F and 95°F. Store in original containers. Avoid getting moisture into containers. Keep containers tightly closed.

Section 8 Exposure Controls/Personal Protection

Occupational Exposure Limits

No OSHA or ACGIH exposure limits apply.

Ventilation

Provide general and local exhaust to minimize airborne concentrations.

Respiratory Protection

In the absence of good ventilation, use-respiratory equipped with organic vapor cartridges or air-supplied respirator. In emergencies, use SCBA.

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	Clear, pale-green liquid
Odor	Mild
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>128°C (262°F)
Evaporation Rate	No data available
Flammability Limits	No data available
Vapor Pressure	< 0.1 mm Hg @ 20°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	400 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
 Excessive heat and exposure to sunlight.

Incompatible Materials
 Strong oxidizers.

Hazardous Decomposition Products
 Thermal decomposition will generate oxides of carbon, phosphorous, and chlorine compounds.

Section 11 Toxicological Information

Eye Contact
 May cause mild irritation.

Skin Contact
 May cause mild irritation.

Inhalation
 Mists may cause mild respiratory irritation.

Ingestion
 Single oral dose toxicity is low. Large amounts may cause gastrointestinal effects. No other data available.

Chronic Health Effects
 None known.

Section 11 Toxicological Information continued

Acute Toxicity Values

Chemical Name	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)
Alkyl polyol blend	>2,000 mg/kg	>2000 mg/kg

Germ Cell Mutagenicity

Components are not known mutagens.

Carcinogenicity

None of the components are carcinogens.

Reproductive Toxicity

Components are not known reproductive toxins.

Specific Target Organ Toxicity

Single Exposure: No data available.

Section 12 Ecological Information

Ecotoxicity

This material is not classified as dangerous to aquatic organisms (Alkyl polyol blend: LC50/EC50 greater than 100 mg/L in most sensitive species.)

Persistence and Degradability

Not readily biodegradable.

Bioaccumulative Potential

No data available.

Mobility in Soil

No data available.

Section 13 Disposal Considerations

Disposal

Dispose according to local, state, and federal regulations.

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: Not Hazardous.

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) 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 Diisononyl Phthalate (DINP), which is known to the State of California to cause cancer. For more information go to 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.

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.

Issue Date: April 22, 2022

Revision Date: October 14, 2022