

**Section 1 Identification**

**Product identifiers**

Product name: Freeman 2070 Part A

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

Identified uses: Polyurethane Elastomer component for Mold Making and Casting.

**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 Phone Number: (800) 424-9300**

**Section 2 Hazards Identification**

**Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)**

Acute Toxicity, inhalation, Category 1  
Skin Irritation, Category 2  
Eye Irritation, Category 2A  
Respiratory Sensitization, Category 1  
Skin Sensitization, Category 1  
Carcinogenicity, Category 2  
Reproductive Toxin, Category 2

**GHS Label elements, including precautionary statements**



Signal word

Danger

**Hazard statements**

Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Fatal if inhaled.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Suspected of causing cancer.  
Suspected of damaging fertility or the unborn child.

**Precautionary statements**

**Prevention**

Do not handle until all safety precautions have been read and understood.  
Do not breathe fumes or vapors.  
Avoid breathing fumes or vapors.

**Section 2 Hazards Identification continued**

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.  
 In case of inadequate ventilation, wear respiratory protection.

**Response**

If on skin: Wash with plenty of soap and water.  
 If inhaled: Remove person to fresh air and keep comfortable for breathing.  
 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 advice/attention.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If experiencing respiratory symptoms: Get emergency medical help immediately.  
 Take off contaminated clothing and wash before reuse.

**Storage**

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

**Disposal**

Dispose of contents and container to an appropriate waste site in accordance with local, state, and federal 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 (TDI)	26471-62-5	10-20
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	30-40
Other ingredients are not classified as health, physical, or environmental hazards, or are present below cut-off/concentrations 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 reuse. Discard items that cannot be decontaminated.  
**Inhalation:** Do not breathe vapors. If inhaled, 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. Prolonged inhalation overexposure may damage the lungs and respiratory system.

### 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. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Persons sensitized to isocyanates should not use 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. Do not allow run-off from firefighting to enter drains or waterways.

#### 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 avoid breathing vapors. 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. Do not seal the container since CO<sub>2</sub> 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%). Do not allow discharge to enter waterways.

### Section 7 Handling and Storage

#### Precautions for Safe Handling

Avoid breathing vapors, aerosols, and mists. Use with properly positioned local exhaust ventilation to prevent exposure. 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. Persons susceptible to skin sensitization problems or asthma allergies, chronic or recurrent respiratory disease, should not use this product.

#### 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 isocyanates react with water to form CO<sub>2</sub> leading to potentially dangerous pressure build up in sealed containers.

**Section 8 Exposure Controls/Personal Protection**

**Control Parameters**

Chemical Name	Exposure Limits
Toluene Diisocyanate (TDI)	0.005 ppm TWA ACGIH TLV
	0.02 ppm (C) OSHA PEL

**Ventilation**

Use with properly positioned local exhaust ventilation to prevent exposure and maintain air levels below the occupational exposure limits.

**Respiratory Protection**

If ventilation is not adequate, use an approved respirator with organic vapor cartridges or supplied air. 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 goggles/glasses.

**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 practices.

**Section 9 Physical and Chemical Properties**

<b>Appearance</b>	Liquid, clear yellow
<b>Odor</b>	No data available
<b>Odor Threshold</b>	No data available
<b>pH</b>	Not applicable
<b>Melting Point</b>	No data available
<b>Boiling Point</b>	No data available
<b>Flash Point (COC)</b>	No data available
<b>Evaporation Rate</b>	No data available
<b>Flammability Limits</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Relative Density</b>	No data available
<b>Solubility</b>	Insoluble in water
<b>Coefficient: n-Octanol/Water</b>	No data available
<b>Auto-Ignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	1,000 cP

**Section 10 Stability and Reactivity**

**Reactivity**

Isocyanates 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.

**Section 10 Stability and Reactivity continued****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 and prevent pressure buildup in closed containers.

**Incompatible Materials**

Avoid contact with water, acids, bases, amines, and some metals (e.g., copper and copper alloys).

**Hazardous Decomposition Products**

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke, hydrogen cyanide (hydrocyanic acid).

**Section 11 Toxicological Information****Eye Contact**

Causes eye irritation.

**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. Ingesting large amounts 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 sensitization in some individuals.

**Acute Toxicity Values**

Toluene diisocyanate (CAS 26471-62-5)  
Oral LC50 Rat: 6,170 mg/kg  
Dermal LC50 Rat: >16,000 mg/kg  
Inhalation LC50 Rat: 0.10 mg/L 4 hr

**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 contains Toluene Diisocyanate (CAS 26471-62-5), a chemical suspected of causing cancer.

**Section 11 Toxicological Information continued**

**Reproductive Toxicity**

Product contains Toluene diisocyanate (CAS 26471-62-5) and 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (CAS 6846-50-0), chemicals suspected of damaging fertility or the unborn child.

**Specific Target Organ Toxicity**

Single Exposure: May cause respiratory irritation.

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

**Section 12 Ecological Information**

**Ecotoxicity**

No data available. Do not release into waterways.

**Persistence and Degradability**

No data available.

**Bioaccumulative Potential**

Isocyanates are not expected to bioaccumulate.

**Mobility in Soil**

No data available

**Section 13 Disposal Considerations**

Dispose according to local, state, and federal regulations. Upon exposure to moisture, product forms an inert, non-hazardous solid.

**Section 14 Transport Information**

Not regulated for transport in any mode.

**Section 15 Regulatory Information**

**US Federal Regulations**

**CERCLA Reportable Quantity:** RQ for Toluene Diisocyanate is 100 lb. Some States have more stringent requirements. Report spills in accordance with local and state 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	10-20%
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**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 Toluene Diisocyanate (TDI), which are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://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**

Product name: Freeman 2070 Part B

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

Identified uses: Component for Polyurethane Elastomer. 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 Phone Number: (800) 424-9300**

**Section 2 Hazards Identification**

**Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)**

Skin Irritation – Category 3  
Skin Sensitization – Category 1  
Reproductive Toxin – Category 2  
Specific Target Organ Toxicity – Repeated Exposure Category 3  
Hazardous to the Aquatic Environment – Chronic Hazard Category 2

**GHS Label elements, including precautionary statements**



**Signal word:** Warning

**Hazard Statements**

Causes mild skin irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.  
Toxic to aquatic life with long lasting effects.

**Precautionary statements**

Obtain, read, and follow all safety instructions before use.  
Avoid breathing fumes or vapors.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing should not be allowed out of the workplace.  
Avoid release to the environment.  
Wear protective gloves and protective clothing.  
If exposed or concerned, get medical advice.  
Get medical help if you feel unwell.  
IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs, get medical help. Take off contaminated clothing and wash it before reuse.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.



**Section 2 Hazards Identification continued**

Collect spillage.  
Store locked up.  
Dispose of contents/container in accordance with local, state, and federal 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 (%)
Benzenediamine	68479-98-1	10-20
Neodecanoic Acid, bismuth salt	34364-26-6	0-10
Neodecanoic Acid, zinc salt	27253-29-8	0-10
Zinc Compound		0-5
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 present and easy to do. 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 and persists. Launder clothing before reuse.

**Inhalation:** If breathing is difficult, remove person to fresh air. Get medical attention if you feel unwell.

**Ingestion:** Rinse mouth. Do not induce vomiting. Get medical attention if symptoms develop or persist.

**Most Important Symptoms/Effects**

Suspected of damaging fertility or the unborn child.

**Indication of Immediate Medical Attention/Special Treatment**

None known.

**Section 5 Fire-Fighting Measures**

**Extinguishing Media**

Carbon dioxide, dry chemical, foam.

**Special Hazards**

Not classified as flammable or combustible.

**Advice for Firefighters**

Wear self-contained breathing apparatus and full-body protective clothing.

**Section 6 Accidental Release Measures**

**Personal Precautions, Protective Equipment, and Emergency Procedures**

Use self-contained breathing apparatus and chemically protective clothing. Clear unnecessary, unprotected personnel from the area.

**Methods and Materials for Containment and Cleanup**

Contain spill and prevent/minimize release to the environment. Collect with inert absorbent and place into a container for disposal.

**Section 7 Handling and Storage**

**Precautions for Safe Handling**

Avoid getting material on skin. Do not breathe vapors. Do not smoke, eat, or drink when using this product.

**Conditions for Safe Storage, Including any Incompatibilities**

Keep container tightly closed in a dry, well-ventilated area.

**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, a NIOSH-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 clothing and gloves, such as butyl rubber or nitrile rubber.

**Eye Protection**

Wear chemical safety glasses/goggles.

**Other Protective Measures**

An eye wash facility and washing facility should be available in the work area. Wash hands at the end of each work shift and before eating, smoking, or using the toilet. Follow applicable regulations and good Industrial Hygiene practice.

**Section 9 Physical and Chemical Properties**

<b>Appearance</b>	Liquid
<b>Odor</b>	No data available
<b>Odor Threshold</b>	No data available
<b>pH</b>	No data available
<b>Melting Point</b>	No data available
<b>Boiling Point</b>	No data available
<b>Flash Point (COC)</b>	No data available
<b>Evaporation Rate</b>	No data available
<b>Upper/Lower Flammability</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Relative Density</b>	No data available
<b>Solubility</b>	No data available
<b>Coefficient: n-Octanol/Water</b>	No data available
<b>Auto-Ignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available

**Section 10 Stability and Reactivity**

**Reactivity:** Not normally reactive.

**Chemical Stability:** Stable under recommended conditions.

**Possibility of Hazardous Reactions:** No data available.

**Conditions to Avoid:** No data available.

**Incompatible Materials:** Avoid strong acids, strong bases, and strong oxidizing agents.

**Hazardous Decomposition Product:** Carbon monoxide, Carbon dioxide (CO<sub>2</sub>), aldehydes, ketones, burning produces noxious and toxic fumes.

**Section 11 Toxicological Information**

**Eye Contact**

May cause mild eye irritation.

**Skin Contact**

May cause mild skin irritation.

**Inhalation**

May cause mild respiratory irritation.

**Ingestion**

No data available.

**Chronic Health Effects**

May damage fertility or the unborn child.

**Acute Toxicity Values**

For Benzenediamine (CAS 68479-98-1)

Oral LD<sub>50</sub> Rat: 738 mg/kg

**Germ Cell Mutagenicity**

This product is not a mutagen.

**Carcinogenicity**

This product does not contain suspected carcinogens.

**Reproductive Toxicity**

This product contains zinc compound, a chemical suspected of causing reproductive harm.

**Specific Target Organ Toxicity**

May cause respiratory irritation.

**Section 12 Ecological Information**

**Ecotoxicity**

Toxic to aquatic life with long lasting effects. Avoid release to the environment.

**Persistence and Degradability**

No data available.

**Bioaccumulative Potential**

No data available.

**Mobility in Soil**

Not expected migrate.

**Section 13 Disposal Considerations**

Dispose according to local, state, and federal regulations.

### Section 14 Transport Information

**DOT**

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

**IMDG**

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

**IATA/Air**

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

### Section 15 Regulatory Information

**US Federal Regulations**

**CERCLA 103 Reportable Quantity:** Does not contain chemicals subject to reporting requirements. 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 and Chronic Health Hazard.

**Section 313 Toxic Chemicals:** Contains chemicals subject to SARA Title III Section 313

Reporting requirements: Zinc Compound 0-5%

**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:** This product does not contain chemicals known to the State of California to cause cancer and/or reproductive harm. [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### Section 16 Other Information

**Training Advice**

All personnel using/handling this product 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.