

Section 1 Identification

Product Identifiers

Product name: Freeman 2075 Resin

Relevant Identified uses of the Substance or Mixture and uses Advised Against

Identified uses: Component for Mold Making and Casting. 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)

Acute Toxicity, inhalation, Category 4
Skin Irritation, Category 2
Eye Irritation, Category 2B
Respiratory Sensitization, Category 1
Skin Sensitization, Category 1
Specific Target Organ Toxicity, Single Exposure, Category 3
Specific Target Organ Toxicity, Repeat Exposure, Category 2

GHS Label Elements, Including Precautionary Statements



Signal Word

Danger

Hazard Statements

Causes skin irritation.
Causes eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to lungs through prolonged or repeated exposure by inhalation.

Section 2 Hazards Identification continued

Precautionary Statements

Prevention

- Do not breathe vapors.
- Avoid breathing vapors.
- 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 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. If experiencing respiratory symptoms, get emergency medical help immediately.
- 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 help.

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 (%)
4,4'-Methylenediphenyl diisocyanate	101-68-8	60-70
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 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

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.

Section 4 First Aid Measures continued

Most Important Symptoms/Effects

Causes skin and eye irritation. Vapors 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.

Indication of Immediate Medical Attention/Special Treatment

Immediate medical attention is required for asthmatic symptoms or serious inhalation exposure. 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 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 fire-fighting 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. Wear appropriate protective clothing to prevent eye and skin contact and avoid breathing vapors. Ventilate area. 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 because 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%). 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 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. Persons susceptible to skin sensitization problems, asthma, allergies, or chronic or recurrent respiratory disease, should not use this product.

Section 7 Handling and Storage continued

Conditions for Safe Storage, Including any Incompatibilities

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

Section 8 Exposure Controls/Personal Protection

Control Parameters

Chemical Name	Exposure Limits
4,4'-Methylenediphenyl diisocyanate	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.

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 liquid
Odor	Mild odor
Odor Threshold	No data available
pH	Not applicable
Melting Point	No data available
Boiling Point	No data available
Flash Point (COC)	No data available
Evaporation Rate	No data available
Flammability Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	1.12 @ 25°C
Solubility	Insoluble in water
Coefficient: n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	1,000-1,200 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.

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 build-up in closed systems.

Conditions to Avoid

Avoid moisture and temperatures below 55°F and above 95°F to protect product integrity and prevent pressure build-up 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 (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke, hydrogen cyanide (hydrocyanic acid).

Section 11 Toxicological Information

Eye Contact

May cause 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 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	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rat)
4,4'-Methylenediphenyl diisocyanate	0.49 mg/L 4 hr. (dust/mist)	>5,000 mg/kg	>9,400 mg/kg

Section 11 Toxicological Information continued

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.

Germ Cell Mutagenicity

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

Respiratory Sensitization

Isocyanates are respiratory sensitizers.

Skin Sensitization

Isocyanates are skin sensitizers.

Specific Target Organ Toxicity

Single Exposure: May cause respiratory irritation.

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

Section 12 Ecological Information

Toxicity

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

Disposal Methods

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

Section 14 Transport Information

US DOT NA Number: NA3082

US DOT Proper Shipping Name: Other Regulated Substances, Liquid, N.O.S. (MDI)

Transportation Hazard Class: 9

Packing Group: III

Reportable Quantity: 5,000 lb.

IMDG: Not regulated for transport.

AIR/IATA: Not regulated for transport.

Section 15 Regulatory Information

US Federal Regulations

CERCLA 103 Reportable Quantity: RQ for MDI is 5,000 lb. Some States have more stringent requirements. Report 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:

4,4'-Methylenediphenyl diisocyanate CAS 101-68-8

Section 302 Extremely Hazardous Substances (TPQ): None

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

State Regulations

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

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

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Section 1 Identification

Product Identifiers

Product name: Freeman 2075 Hardener

Relevant Identified Uses of the Substance or Mixture

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)

Skin Irritation, Category 3

Carcinogenicity, Category 2

GHS Label Elements, Including Precautionary Statements



Signal word Warning

Hazard statements

Causes mild skin irritation.

Suspected of causing cancer.

Precautionary statements

Prevention

Obtain, read, and follow all safety information before use.

Wear protective gloves and protective clothing.

Response

If exposed or concerned, get medical advice.

IF ON SKIN: If skin irritation occurs, get medical help.

Storage

Store locked up.

Disposal

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 (%)
Tributyl Phosphate	126-73-8	0-10
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 and persists.

Skin Contact

Wash affected area thoroughly with soap and water. Get medical attention if irritation develops and persists.

Inhalation

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

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if you feel unwell.

Most Important Symptoms/Effects

Suspected of causing cancer.

Indication of Immediate Medical Attention/Special Treatment

None known.

Section 5 Fire-Fighting Measures

Extinguishing Media

Use carbon dioxide, dry chemical, and foam.

Special Hazards

Not classified as flammable or combustible.

Special Protective Equipment & Precautions for Fire-Fighters

Wear self-contained breathing apparatus (SCBA) and full-body protective suit.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Use self-contained breathing apparatus (SCBA) 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 material in a container for disposal.

Section 7 Handling and Storage

Safe Handling

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

Safe Storage

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

Section 8 Exposure Controls/Personal Protection

Occupational Exposure Limits

Chemical Name	CAS Number	OSHA - PEL	ACGIH - TLV
Tributyl Phosphate	126-73-8	0.2 ppm TWA	0.2 ppm TWA

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 or goggles.

Other Protective Measures

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

Section 9 Physical and Chemical Properties

Appearance	Liquid
Odor	No data available
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	No data available
Evaporation Rate	No data available
Flammability Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	No data available
Solubility	No data available
Coefficient: n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available

Section 10 Stability and Reactivity

Reactivity

Not normally reactive.

Chemical Stability

Stable under recommended storage 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 Products

Carbon monoxide, carbon dioxide, aldehydes, ketones, burning produces noxious and toxic fumes.

Section 11 Toxicological Information

Eye Contact

May cause mild eye irritation.

Skin Contact

Causes skin irritation.

Inhalation

May cause mild respiratory irritation.

Ingestion

No data available.

Chronic Health Effects

Suspected of causing cancer.

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)
Tributyl phosphate	Not available	1,552 mg/kg	Not available

Germ Cell Mutagenicity

This product is not a mutagen.

Carcinogenicity

This product contains Tributyl phosphate (CAS 126-73-8), a chemical suspected of causing cancer.

Reproductive Toxicity

This product is not a reproductive toxin.

Specific Target Organ Toxicity

None known.

Section 12 Ecological Information

Toxicity

No data available. Avoid release to the environment.

Persistence and Degradability

No data available.

Bioaccumulative Potential

No data available.

Mobility in Soil

Not expected to migrate.

Section 13 Disposal Considerations

Disposal

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate. See Section 8 for recommendations on the use of personal protective equipment.

Section 14 Transport Information

Not regulated for transport in any mode.

Section 15 Regulatory Information

U.S. 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 Health, Chronic Health.

Section 313 Toxic Chemicals: This product does not contain 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 TSCA.

State Regulations

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Section 16 Other Information

Disclaimer

The following supersedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict of liability arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.