

Section 1 Identification

Product Identifiers

Product name: Freeman 2060 Part A (Red Resin)

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

Identified uses: For Industrial/Professional use only.

Details of the Supplier of the Safety Data Sheet

Freeman Manufacturing & Supply Company
1101 Moore Road, Avon, OH 44011
Telephone (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 2
Skin Corrosion, Category 1C
Respiratory Sensitization, Category 1
Skin Sensitization, Category 1
Skin Sensitizer, Category 1
Specific Target Organ Toxicity, Single Exposure (Respiratory), Category 3

GHS Label Elements, Including Precautionary Statements



Danger

Hazard Statements

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Fatal if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention: Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Only use outdoors or in a well-ventilated area.

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

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

In case of inadequate ventilation wear respiratory protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of soap and water. Take off immediately all contaminated clothing and wash before reuse. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.

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

IF IN EYES: Immediately rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get emergency medical advice/attention immediately.

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, regional, and national regulations.

Section 2 Hazards Identification continued

Supplemental Information

This material is intended for hand-mix and pour applications. When used in its intended purpose, this material is harmful if inhaled. This material should not be heated or used in spray applications. If sprayed, this material is fatal if inhaled. 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'Methylenedicyclohexyl Diisocyanate	5124-30-1	20-30
Isophorone Diisocyanate	4098-71-9	10-20

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

Section 4 First Aid Measures

Description of First Aid Measures

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

Skin Contact: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention immediately. Wash contaminated clothing before reuse. Discard clothing that cannot be decontaminated.

Inhalation: Remove person to fresh air. Get medical attention if symptoms develop or persist.

Ingestion: Do not induce vomiting unless instructed to do so by a medical professional. Get medical attention immediately.

Most Important Symptoms/Effects

Fatal if inhaled.

Indication of Immediate Medical Attention/Special Treatment

Get immediate medical attention if inhaled.

Section 5 Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Use water spray, foam, dry chemical, or carbon dioxide.

Unsuitable Extinguishing Media: Do not use solid water stream. Solid stream of water into hot product may cause violent steam generation or spread fire.

Specific Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion Hazards: Product is not considered flammable or combustible. Product will burn under fire conditions.

Hazardous Combustion Products: Irritating or toxic substances may be emitted upon burning, combustion, or decomposition. See Section 10 for additional information.

Special Protective Equipment and Precautions for Fire-Fighters

Wear self-contained breathing apparatus (SCBA) equipped with a full-face piece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate non-emergency personnel. Personal Protective Equipment must be worn, see Section 8 for recommendations. If spilled in an enclosed area, ventilate. Avoid breathing vapors.

Environmental Precautions

Do not flush product into public sewer, water systems, or surface waters.

Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Contain by diking with sand, earth, or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled container, apply lid loosely, move the container to an isolated well-ventilated area to allow release of carbon dioxide. After 72 hours, seal the container and store in a safe location to await disposal. Change contaminated clothing and launder before reuse.

Section 7 Handling and Storage

Precautions for Safe Handling

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Wash thoroughly after handling this product. Always wash up before eating, smoking, or using the facilities. Avoid eye and skin contact. Avoid drinking, tasting, swallowing, or ingesting this product. Wash contaminated clothing before reuse. Discard shoes contaminated with this product.

Conditions for Safe Storage, Including Any Incompatibilities

Store indoors in a dry location at 15-40°C, under well-ventilated conditions. Store this material away from incompatible substances (see Section 10). Do not store in open, unlabeled, or mislabeled containers. Keep container closed when not in use. Store locked up. Empty container contains residual product which may exhibit hazards of product. Do not reuse empty container without commercial cleaning or reconditioning.

Section 8 Exposure Controls/Personal Protection

Components with Workplace Control Parameters

Chemical Name	CAS Number	ACGIH TWA
Isophorone Diisocyanate	4098-71-9	0.005 ppm

Appropriate Engineering Controls

Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist, and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary use mechanical handling to reduce human contact with materials.

Personal Protective Equipment

Eye Protection: Wear chemical safety glasses/goggles.

Skin Protection: Wear chemical resistant (impervious) gloves; PVC, neoprene, nitrile rubber, EVAL, butyl rubber. Wear chemical resistant protective clothing. Use good laboratory/workplace procedures including personal protective clothing: lab coat and protective gloves. When there is potential for a major splash directly

Section 8 Exposure Controls/Personal Protection

on the skin, such as when breaking into lines, a full chemical suit is required. When the application results in airborne, vapor, or mist, a full permeation resistant suit, including head covering, face shield, gloves, and overshoes, is required.

Respiratory Protection: Wear an approved respirator (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self-contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume, or vapor exceed the applicable exposure limits of any chemical substance listed in this SDS.

Other Protective Measures

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	Red Liquid
Odor	Pungent
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>150°C (>300°F)
Evaporation Rate	No data available
Flammability (Solid, Gas)	No data available
Vapor Density	<0.00048 mm Hg at 20°C
Relative Density	1.06
Solubility	Insoluble
Coefficient: n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	8,000 cP at 25°C

Section 10 Stability and Reactivity

Reactivity: Not normally reactive.

Chemical Stability: Stable under recommended conditions.

Possibility of Hazardous Reactions: Masses of ≥1 lb. (0.5 kg) plus aliphatic amine will cause irreversible polymerization with considerable heat build-up. Material will polymerize with sodium hydroxide.

Conditions to Avoid: Excessive heat

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

Hazardous Decomposition Products: Thermal decomposition may produce smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, phenolics, aldehydes, and other toxic organic compounds.

Section 11 Toxicological Information

Routes of exposure, and symptoms related to the physical, chemical, and toxicological characteristics

Eye Contact: Causes serious eye damage. May cause corneal injury. Vapor or aerosol may cause irritation with symptoms of burning or tearing.

Skin Contact: Causes severe skin burns. May cause an allergic skin reaction. Repeated or prolonged contact may cause skin irritation and dermatitis.

Section 11 Toxicological Information

Inhalation: Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate the mucous membranes in the respiratory tract with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function. Persons with preexisting, nonspecific bronchial hyper-reactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms, as well as, asthma attack or asthma-like symptoms.

Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm, and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms, has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Ingestion: May cause irritation of the digestive tract; symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

As result of previous repeated overexposure or a single large dose, certain individuals may develop sensitization to isocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to isocyanate at levels well below the exposure limits or guidelines. The symptoms, which can include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. The increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Prolonged contact with skin can cause skin sensitization. Prolonged vapor contact with the eyes may cause conjunctivitis.

Section 11 Toxicological Information

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rat)
4,4'-Methylenedicyclohexyl Diisocyanate	0.434 mg/L (4 hr.)	18,200 mg/kg	>7,000 mg/kg
Isophorone Diisocyanate	0.031 mg/L (4 hr.)	4,814 mg/kg	>7,000 mg/kg

Skin Corrosion/Irritation	Skin Irritation, Category 1
Serious Eye Damage/Irritation	Eye Irritation, Category 1
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Components are not classified as mutagens
Carcinogenicity	Components are not classified as carcinogens
Reproductive Toxicity	Components are not classified as reproductive toxins
Specific Target Organ Toxicity (STOT)	
Single Exposure:	Category 3 – Respiratory tract irritation.
Repeated Exposure:	No data available.
Aspiration Hazard	No data available

Other Information

Medical supervision of all employees who handle or come in contact with isocyanates is recommended. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Persons who have a history of adult asthma should be restricted from work with isocyanates. Persons with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. Once a worker has been diagnosed as sensitized to any isocyanates, no further exposure can be permitted.

Section 12 Ecological Information

Toxicity No data available on product

Chemical Name	Test	Species	Result
4,4'-Methylenedicyclohexyl Diisocyanate	LC50 (96 hrs.)	Brachydanio Rerio	8.1 mg/L
	EC50 (48 hrs.)	Daphnia Magna	8.3 mg/L
	ErC50 (72 hrs.)	Scenedesmus Subspicatus	5.0 mg/L
	EC50 (3 hrs.)	Pseudomonas Putida	191 mg/L
Isophorone Diisocyanate	LC50 (96 hrs.)	Danio Rerio	>72 mg/L
	LC50 (96 hrs.)	Cyprinus Carpio	>208 mg/L
	EC50 (48 hrs.)	Daphnia Magna	27 mg/L
	ErC50 (72 hrs.)	Desmodesmus Subspicatus	70 mg/L
	EC10 (6 hrs.)	Pseudomonas Putida	554 mg/L
	EC50 (3 hrs.)	Activated Sludge	263 mg/L

Persistence and Degradability No data available on product

Chemical Name	Test	Period	Result
4,4'-Methylenedicyclohexyl Diisocyanate	Aerobic (Directive 92/69/EEC)	28 days	0%
Isophorone Diisocyanate	Aerobic	28 days	0%

Bioaccumulative Potential No data available on product

Chemical Name	Test	Result	Potential
4,4'-Methylenedicyclohexyl Diisocyanate	Calculated (BCF)	10.186	Not expected
Isophorone Diisocyanate	Studies of hydrolysis products	Not available	Not expected

Mobility in Soil No data available on product

Chemical Name	Soil/Water Partition Coefficient (K _{oc})
4,4'-Methylenedicyclohexyl Diisocyanate	110-672
Isophorone Diisocyanate	Not available

Section 13 Disposal Considerations

Disposed of unused contents 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

DOT / IMDG

Not regulated for transport

IATA

UN Number: UN3334
Proper Shipping Name: Aviation Regulated Liquid, N.O.S. (Dicyclohexylmethane-4,4'-diisocyanate)
Hazard Class: 9
Packing Group: III

Section 15 Regulatory Information

U.S. Federal Regulations

Superfund Amendments and Reauthorization Act (SARA) Section 313 Toxic Chemicals:

4,4'-Methylenedicyclohexyl Diisocyanate (CAS 5124-30-1)

Isophorone Diisocyanate (CAS 4098-71-9)

SARA Section 302 (EHS) TPQ: Isophorone Diisocyanate (CAS 4098-71-9), 500 lb.

SARA Section 304 EHS RQ: Isophorone Diisocyanate (CAS 4098-71-9), 500 lb.

U.S. 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

U.S. Toxic Substances Control Act (TSCA)

All intentionally added components are either listed or are otherwise compliant

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.

Issue Date: August 24, 2021

Previous Revision Date: November 1, 2022

Section 1 Identification

Product Identifiers

Product name: Freeman 2060 Part A (Clear Resin)

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

Identified uses: For Industrial/Professional use only.

Details of the Supplier of the Safety Data Sheet

Freeman Manufacturing & Supply Company
1101 Moore Road, Avon, OH 44011
Telephone (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 2
Skin Corrosion, Category 1C
Respiratory Sensitization, Category 1
Skin Sensitization, Category 1
Skin Sensitizer, Category 1
Specific Target Organ Toxicity, Single Exposure (Respiratory), Category 3

GHS Label Elements, Including Precautionary Statements



Danger

Hazard Statements

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Fatal if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention: Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Only use outdoors or in a well-ventilated area.

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

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

In case of inadequate ventilation wear respiratory protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of soap and water. Take off immediately all contaminated clothing and wash before reuse. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.

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

IF IN EYES: Immediately rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get emergency medical advice/attention immediately.

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, regional, and national regulations.

Section 2 Hazards Identification continued

Supplemental Information

This material is intended for hand-mix and pour applications. When used in its intended purpose, this material is harmful if inhaled. This material should not be heated or used in spray applications. If sprayed, this material is fatal if inhaled. 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'Methylenedicyclohexyl Diisocyanate	5124-30-1	20-30
Isophorone Diisocyanate	4098-71-9	10-20

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

Section 4 First Aid Measures

Description of First Aid Measures

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

Skin Contact: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention immediately. Wash contaminated clothing before reuse. Discard clothing that cannot be decontaminated.

Inhalation: Remove person to fresh air. Get medical attention if symptoms develop or persist.

Ingestion: Do not induce vomiting unless instructed to do so by a medical professional. Get medical attention immediately.

Most Important Symptoms/Effects

Fatal if inhaled.

Indication of Immediate Medical Attention/Special Treatment

Get immediate medical attention if inhaled.

Section 5 Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Use water spray, foam, dry chemical, or carbon dioxide.

Unsuitable Extinguishing Media: Do not use solid water stream. Solid stream of water into hot product may cause violent steam generation or spread fire.

Specific Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion Hazards: Product is not considered flammable or combustible. Product will burn under fire conditions.

Hazardous Combustion Products: Irritating or toxic substances may be emitted upon burning, combustion, or decomposition. See Section 10 for additional information.

Special Protective Equipment and Precautions for Fire-Fighters

Wear self-contained breathing apparatus (SCBA) equipped with a full-face piece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate non-emergency personnel. Personal Protective Equipment must be worn, see Section 8 for recommendations. If spilled in an enclosed area, ventilate. Avoid breathing vapors.

Environmental Precautions

Do not flush product into public sewer, water systems, or surface waters.

Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Contain by diking with sand, earth, or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled container, apply lid loosely, move the container to an isolated well-ventilated area to allow release of carbon dioxide. After 72 hours, seal the container and store in a safe location to await disposal. Change contaminated clothing and launder before reuse.

Section 7 Handling and Storage

Precautions for Safe Handling

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Wash thoroughly after handling this product. Always wash up before eating, smoking, or using the facilities. Avoid eye and skin contact. Avoid drinking, tasting, swallowing, or ingesting this product. Wash contaminated clothing before reuse. Discard shoes contaminated with this product.

Conditions for Safe Storage, Including Any Incompatibilities

Store indoors in a dry location at 15-40°C, under well-ventilated conditions. Store this material away from incompatible substances (see Section 10). Do not store in open, unlabeled, or mislabeled containers. Keep container closed when not in use. Store locked up. Empty container contains residual product which may exhibit hazards of product. Do not reuse empty container without commercial cleaning or reconditioning.

Section 8 Exposure Controls/Personal Protection

Components with Workplace Control Parameters

Chemical Name	CAS Number	ACGIH TWA
Isophorone Diisocyanate	4098-71-9	0.005 ppm

Appropriate Engineering Controls

Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist, and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary use mechanical handling to reduce human contact with materials.

Personal Protective Equipment

Eye Protection: Wear chemical safety glasses/goggles.

Skin Protection: Wear chemical resistant (impervious) gloves; PVC, neoprene, nitrile rubber, EVAL, butyl rubber. Wear chemical resistant protective clothing. Use good laboratory/workplace procedures including personal protective clothing: lab coat and protective gloves. When there is potential for a major splash directly

Section 8 Exposure Controls/Personal Protection

on the skin, such as when breaking into lines, a full chemical suit is required. When the application results in airborne, vapor, or mist, a full permeation resistant suit, including head covering, face shield, gloves, and overshoes, is required.

Respiratory Protection: Wear an approved respirator (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self-contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume, or vapor exceed the applicable exposure limits of any chemical substance listed in this SDS.

Other Protective Measures

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	Colorless Liquid
Odor	Pungent
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>150°C (>300°F)
Evaporation Rate	No data available
Flammability (Solid, Gas)	No data available
Vapor Density	<0.00048 mm Hg at 20°C
Relative Density	1.06
Solubility	Insoluble
Coefficient: n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	8,000 cP at 25°C

Section 10 Stability and Reactivity

Reactivity: Not normally reactive.

Chemical Stability: Stable under recommended conditions.

Possibility of Hazardous Reactions: Masses of ≥1 lb. (0.5 kg) plus aliphatic amine will cause irreversible polymerization with considerable heat build-up. Material will polymerize with sodium hydroxide.

Conditions to Avoid: Excessive heat

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

Hazardous Decomposition Products: Thermal decomposition may produce smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, phenolics, aldehydes, and other toxic organic compounds.

Section 11 Toxicological Information

Routes of exposure, and symptoms related to the physical, chemical, and toxicological characteristics

Eye Contact: Causes serious eye damage. May cause corneal injury. Vapor or aerosol may cause irritation with symptoms of burning or tearing.

Skin Contact: Causes severe skin burns. May cause an allergic skin reaction. Repeated or prolonged contact may cause skin irritation and dermatitis.

Freeman 2060 Part A (Clear Resin)

Section 11 Toxicological Information

Inhalation: Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate the mucous membranes in the respiratory tract with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function. Persons with preexisting, nonspecific bronchial hyper-reactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms, as well as, asthma attack or asthma-like symptoms.

Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm, and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms, has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Ingestion: May cause irritation of the digestive tract; symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

As result of previous repeated overexposure or a single large dose, certain individuals may develop sensitization to isocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to isocyanate at levels well below the exposure limits or guidelines. The symptoms, which can include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. The increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Prolonged contact with skin can cause skin sensitization. Prolonged vapor contact with the eyes may cause conjunctivitis.

Section 11 Toxicological Information

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rat)
4,4'-Methylenedicyclohexyl Diisocyanate	0.434 mg/L (4 hr.)	18,200 mg/kg	>7,000 mg/kg
Isophorone Diisocyanate	0.031 mg/L (4 hr.)	4,814 mg/kg	>7,000 mg/kg

Skin Corrosion/Irritation	Skin Irritation, Category 1
Serious Eye Damage/Irritation	Eye Irritation, Category 1
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Components are not classified as mutagens
Carcinogenicity	Components are not classified as carcinogens
Reproductive Toxicity	Components are not classified as reproductive toxins
Specific Target Organ Toxicity (STOT)	
Single Exposure:	Category 3 – Respiratory tract irritation.
Repeated Exposure:	No data available.
Aspiration Hazard	No data available

Other Information

Medical supervision of all employees who handle or come in contact with isocyanates is recommended. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Persons who have a history of adult asthma should be restricted from work with isocyanates. Persons with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. Once a worker has been diagnosed as sensitized to any isocyanates, no further exposure can be permitted.

Freeman 2060 Part A (Clear Resin)

Section 12 Ecological Information

Toxicity No data available on product

Chemical Name	Test	Species	Result
4,4'-Methylenedicyclohexyl Diisocyanate	LC50 (96 hrs.)	Brachydanio Rerio	8.1 mg/L
	EC50 (48 hrs.)	Daphnia Magna	8.3 mg/L
	ErC50 (72 hrs.)	Scenedesmus Subspicatus	5.0 mg/L
	EC50 (3 hrs.)	Pseudomonas Putida	191 mg/L
Isophorone Diisocyanate	LC50 (96 hrs.)	Danio Rerio	>72 mg/L
	LC50 (96 hrs.)	Cyprinus Carpio	>208 mg/L
	EC50 (48 hrs.)	Daphnia Magna	27 mg/L
	ErC50 (72 hrs.)	Desmodesmus Subspicatus	70 mg/L
	EC10 (6 hrs.)	Pseudomonas Putida	554 mg/L
	EC50 (3 hrs.)	Activated Sludge	263 mg/L

Persistence and Degradability No data available on product

Chemical Name	Test	Period	Result
4,4'-Methylenedicyclohexyl Diisocyanate	Aerobic (Directive 92/69/EEC)	28 days	0%
Isophorone Diisocyanate	Aerobic	28 days	0%

Bioaccumulative Potential No data available on product

Chemical Name	Test	Result	Potential
4,4'-Methylenedicyclohexyl Diisocyanate	Calculated (BCF)	10.186	Not expected
Isophorone Diisocyanate	Studies of hydrolysis products	Not available	Not expected

Mobility in Soil No data available on product

Chemical Name	Soil/Water Partition Coefficient (K _{OC})
4,4'-Methylenedicyclohexyl Diisocyanate	110-672
Isophorone Diisocyanate	Not available

Section 13 Disposal Considerations

Disposed of unused contents 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

DOT / IMDG

Not regulated for transport

IATA

UN Number: UN3334
Proper Shipping Name: Aviation Regulated Liquid, N.O.S. (Dicyclohexylmethane-4,4'-diisocyanate)
Hazard Class: 9
Packing Group: III

Section 15 Regulatory Information

U.S. Federal Regulations

Superfund Amendments and Reauthorization Act (SARA) Section 313 Toxic Chemicals:

4,4'-Methylenedicyclohexyl Diisocyanate (CAS 5124-30-1)

Isophorone Diisocyanate (CAS 4098-71-9)

SARA Section 302 (EHS) TPQ: Isophorone Diisocyanate (CAS 4098-71-9), 500 lb.

SARA Section 304 EHS RQ: Isophorone Diisocyanate (CAS 4098-71-9), 500 lb.

U.S. 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

U.S. Toxic Substances Control Act (TSCA)

All intentionally added components are either listed or are otherwise compliant

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.

Issue Date: August 24, 2021

Previous Revision Date: November 1, 2022

Freeman 66 Part B (Black Hardener)

Section 1 Identification

Product Identifiers

Product name: Freeman 66 Part B (Black Hardener)

Relevant Identified Uses of the Substance or Mixture

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

Identified uses: Potting and Encapsulation, Casting, Adhesive

This product is intended for industrial/professional use only.

Details of the Supplier of the Safety Data Sheet

Freeman Manufacturing & Supply Company

1101 Moore Road, Avon, OH 44011

Telephone (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 - Dermal, Category 4

Acute Toxicity - Oral, Category 4

Acute Toxicity - Inhalation, Category 4

Eye Irritation, Category 2B

Reproductive Toxicity, Category 2

Specific Target Organ Toxicity - Single Exposure Category 3

Hazardous to the Aquatic Environment - Acute Hazard, Category 1

Hazardous to the Aquatic Environment - Chronic Hazard, Category 1

GHS Label Elements, Including Precautionary Statements



Signal word: Danger

Hazard Statements

Harmful if swallowed.

Harmful in contact with skin.

Causes skin irritation.

Harmful if inhaled.

May cause respiratory irritation.

May cause drowsiness or dizziness.

Suspected of damaging fertility or the unborn child.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Obtain special instructions before use.

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

Avoid breathing fumes, mist, vapors, and spray.

Wash hands thoroughly after handling.

Do not eat, drink, or smoke when using this product.

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, clothing, and eye/face protection.

In case of inadequate ventilation wear respiratory protection.

Response: IF SWALLOWED: Rinse mouth. Get medical attention.

Freeman 66 Part B (Black Hardener)

Section 2 Hazards Identification continued

IF ON SKIN: Take off contaminated clothing and wash it before reuse.

Gently wash with plenty of soap and water.

IF INHALED: Remove victim to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, get medical advice/attention.

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

Continue rinsing. Get medical attention.

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, regional, and national regulations.

Hazards not otherwise classified (HNOC) or not covered by GHS

None known

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
4,4'- Methylenebis(2-ethylaniline)	19900-65-3	60-70
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	30-40

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

Section 4 First-Aid Measures

Description of First Aid Measures

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

Skin Contact: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse. Discard clothing that cannot be decontaminated.

Inhalation: Remove person to fresh air. Get medical attention immediately.

Ingestion: Rinse mouth. Do NOT induce vomiting. Get medical attention immediately.

Most Important Symptoms/Effects

Harmful if swallowed and inhaled.

Indication of Immediate Medical Attention/Special Treatment

Get immediate medical attention if swallowed or inhaled.

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 spread fire.

Specific Hazards

Not classified as flammable or combustible. Product will burn under fire conditions. Combustion products include oxides of carbon, phenolics, aldehydes and other toxic organic compounds.

Special Protective Equipment & Precautions for Fire-Fighters

Wear positive pressure, self-contained breathing apparatus, and full-body protective clothing. respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning, or decomposition.

In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations. See Section 9 for additional information.

Freeman 66 Part B (Black Hardener)

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Personal protective equipment must be worn. See Section 8 for recommendations on the use of personal protective equipment. Eliminate sources of ignition. Ventilate spill area. Keep unauthorized persons away.

Environmental Precautions

Avoid release to the environment. Do not flush product into public sewer, water systems, or surface waters.

Methods and Materials for Containment and Cleanup

Stop leak if without risk. Move containers from spill area. Contain by diking with sand, earth, or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

Section 7 Handling and Storage

Safe Handling

Use with adequate ventilation. 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.

Safe Storage

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

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

None established

Appropriate Engineering Controls

Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist, and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary use mechanical handling to reduce human contact with materials.

Respiratory Protection

Wear an approved respirator with organic vapor cartridges whenever exposure to aerosol, mist, spray, fume or vapor exceed the applicable exposure limit(s) of any chemical substance listed in this SDS. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Skin Protection

Wear impervious gloves; such as nitrile or butyl rubber. Wear chemical resistant protective clothing. Use good laboratory/workplace procedures including personal protective clothing: lab coat and protective gloves.

Eye /Face Protection

Wear safety glasses or goggles.

General Protection

Eyewash fountains and safety showers are recommended in the work area.

Section 9 Physical and Chemical Properties

Appearance	Black Liquid
Odor	Slight
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>100°C (>212°F)
Evaporation Rate	No data available
Flammability (Solid, Gas)	No data available

Freeman 66 Part B (Black Hardener)

Section 9 Physical and Chemical Properties

Flammability Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	1.01
Solubility	Nil to slightly soluble in water
Coefficient: n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	190 cP @ 25°C

Section 10 Stability and Reactivity

Reactivity: Not normally reactive.
Chemical Stability: Stable under recommended conditions.
Possibility of Hazardous Reactions: Exothermic reactions including polymerization may occur in contact with strong acids, strong bases, alcohols, strong oxidizing agents, and excessive heat.
Conditions to Avoid: Avoid excessive heat and ignition sources.
Incompatible Materials: Avoid contact with strong oxidizing agents, acids, and bases.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, aldehydes, and oxides of nitrogen.

Section 11 Toxicological Information

Routes of exposure, and symptoms related to the physical, chemical, and toxicological characteristics

Eye Contact: Causes eye irritation.
Skin Contact: Harmful in contact with skin. May cause skin irritation.
Inhalation: Harmful if inhaled. May cause respiratory irritation.
Ingestion: Harmful if ingested.

Chronic Health Effects

Suspected of causing cancer. May damage fertility or the unborn child.

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)
4,4'-Methylenebis(2-ethylaniline) (CAS 19900-65-3)	1.5 mg/L	500 mg/kg	1,100 mg/kg
2,2,4-trimethyl-1,3-pentanediol diisobutyrate (CAS 6846-50-0):	Not established	>2,000 mg/kg	>2,000 mg/kg

Skin Corrosion/Irritation	Harmful in contact with skin
Serious Eye Damage/Irritation	Causes eye irritation
Respiratory Irritation/Sensitization	May cause respiratory irritation
Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity	No data available
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity	
Single Exposure:	May cause respiratory irritation, drowsiness or dizziness.
Repeated Exposure:	No data available
Aspiration Hazard	No data is available.

Freeman 66 Part B (Black Hardener)
Section 12 Ecological Information

Toxicity: Very toxic to aquatic life with long lasting effects. Do not release into waterways.

Chemical Name	Test	Species	Result
4,4'-Methylenebis(2-ethylaniline)	Not available	Not available	Not available

Persistence and Degradability

Chemical Name	Test	Period	Result
4,4'-Methylenebis(2-ethylaniline)	Not available	Not available	Not available

Bioaccumulative Potential

Chemical Name	Test	Duration	Result
4,4'-Methylenebis(2-ethylaniline)	Not available	Not available	Not available

Mobility in Soil

Chemical Name	Soil/Water Partition Coefficient (K _{oc})
4,4'-Methylenebis(2-ethylaniline)	Not available

Section 13 Disposal Considerations

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
DOT

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

UN Number: UN3082

UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S., (4,4'-Methylenebis (2-ethylaniline))

Hazard Class: 9

Packing Group: III

IATA/IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s.

(4,4'-Methylenebis(2-ethylaniline), 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
U.S. Federal Regulations

CERCLA 103 Reportable Quantity: This product is not subject to these reporting requirements. Some states have more stringent reporting requirements.

Superfund Amendments and Reauthorization Act (SARA) Section 313 Toxic Chemicals: Not listed.

U.S. State Regulations

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): This product does not contain chemicals known to the State of California to cause cancer and/or reproductive harm.

www.P65Warnings.ca.gov

Freeman 66 Part B (Black Hardener)

Section 15 Regulatory Information

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV List of substances subject to authorization, Substances of very high concern:

Not available

Annex XVII Restriction on the manufacture, placing on the market and use of certain dangerous substances, mixtures, and articles: Not available

Chemical Inventories

U.S. Toxic Substances Control Act (TSCA): All intentionally added components are listed.

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.

Issue Date: December 1, 2021

Previous Revision Date: October 29, 2022

Freeman 66 Part B (Amber Hardener)

Section 1 Identification

Product Identifiers

Product name: Freeman 66 Part B (Amber Hardener)

Relevant Identified Uses of the Substance or Mixture

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

Identified uses: Potting and Encapsulation, Casting, Adhesive

This product is intended for industrial/professional use only.

Details of the Supplier of the Safety Data Sheet

Freeman Manufacturing & Supply Company

1101 Moore Road, Avon, OH 44011

Telephone (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 - Dermal, Category 4

Acute Toxicity - Oral, Category 4

Acute Toxicity - Inhalation, Category 4

Eye Irritation, Category 2B

Reproductive Toxicity, Category 2

Specific Target Organ Toxicity - Single Exposure Category 3

Hazardous to the Aquatic Environment - Acute Hazard, Category 1

Hazardous to the Aquatic Environment - Chronic Hazard, Category 1

GHS Label Elements, Including Precautionary Statements



Signal word: Danger

Hazard Statements

Harmful if swallowed.

Harmful in contact with skin.

Causes skin irritation.

Harmful if inhaled.

May cause respiratory irritation.

May cause drowsiness or dizziness.

Suspected of damaging fertility or the unborn child.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Obtain special instructions before use.

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

Avoid breathing fumes, mist, vapors, and spray.

Wash hands thoroughly after handling.

Do not eat, drink, or smoke when using this product.

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, clothing, and eye/face protection.

In case of inadequate ventilation wear respiratory protection.

Response: IF SWALLOWED: Rinse mouth. Get medical attention.

Section 2 Hazards Identification continued

IF ON SKIN: Take off contaminated clothing and wash it before reuse. Gently wash with plenty of soap and water.
 IF INHALED: Remove victim to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, get medical advice/attention.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
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, regional, and national regulations.

Hazards not otherwise classified (HNOC) or not covered by GHS

None known

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
4,4'- Methylenebis(2-ethylaniline)	19900-65-3	60-70
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	30-40

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

Section 4 First-Aid Measures

Description of First Aid Measures

Eye Contact: Rinse thoroughly with water, holding the eyelids open to be sure the material is washed out. Remove contact lenses if safe and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.
Skin Contact: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse. Discard clothing that cannot be decontaminated.
Inhalation: Remove person to fresh air. Get medical attention immediately.
Ingestion: Rinse mouth. Do NOT induce vomiting. Get medical attention immediately.

Most Important Symptoms/Effects

Harmful if swallowed and inhaled.

Indication of Immediate Medical Attention/Special Treatment

Get immediate medical attention if swallowed or inhaled.

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 spread fire.

Specific Hazards

Not classified as flammable or combustible. Product will burn under fire conditions. Combustion products include oxides of carbon, phenolics, aldehydes and other toxic organic compounds.

Special Protective Equipment & Precautions for Fire-Fighters

Wear positive pressure, self-contained breathing apparatus, and full-body protective clothing. respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning, or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations. See Section 9 for additional information.

Freeman 66 Part B (Amber Hardener)

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Personal protective equipment must be worn. See Section 8 for recommendations on the use of personal protective equipment. Eliminate sources of ignition. Ventilate spill area. Keep unauthorized persons away.

Environmental Precautions

Avoid release to the environment. Do not flush product into public sewer, water systems, or surface waters.

Methods and Materials for Containment and Cleanup

Stop leak if without risk. Move containers from spill area. Contain by diking with sand, earth, or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

Section 7 Handling and Storage

Safe Handling

Use with adequate ventilation. 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.

Safe Storage

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

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

None established

Appropriate Engineering Controls

Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist, and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary use mechanical handling to reduce human contact with materials.

Respiratory Protection

Wear an approved respirator with organic vapor cartridges whenever exposure to aerosol, mist, spray, fume or vapor exceed the applicable exposure limit(s) of any chemical substance listed in this SDS. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Skin Protection

Wear impervious gloves; such as nitrile or butyl rubber. Wear chemical resistant protective clothing. Use good laboratory/workplace procedures including personal protective clothing: lab coat and protective gloves.

Eye /Face Protection

Wear safety glasses or goggles.

General Protection

Eyewash fountains and safety showers are recommended in the work area.

Section 9 Physical and Chemical Properties

Appearance	Amber Liquid
Odor	Slight
Odor Threshold	No data available
pH	No data available
Melting/Freezing Point	No data available
Boiling Point	No data available
Flash Point	>100°C (>212°F)
Evaporation Rate	No data available
Flammability (Solid, Gas)	No data available

Freeman 66 Part B (Amber Hardener)

Section 9 Physical and Chemical Properties

Flammability Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	1.01
Solubility	Nil to slightly soluble in water
Coefficient: n-Octanol/Water	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	190 cP @ 25°C

Section 10 Stability and Reactivity

Reactivity: Not normally reactive.
Chemical Stability: Stable under recommended conditions.
Possibility of Hazardous Reactions: Exothermic reactions including polymerization may occur in contact with strong acids, strong bases, alcohols, strong oxidizing agents, and excessive heat.
Conditions to Avoid: Avoid excessive heat and ignition sources.
Incompatible Materials: Avoid contact with strong oxidizing agents, acids, and bases.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, aldehydes, and oxides of nitrogen.

Section 11 Toxicological Information

Routes of exposure, and symptoms related to the physical, chemical, and toxicological characteristics

Eye Contact: Causes eye irritation.
Skin Contact: Harmful in contact with skin. May cause skin irritation.
Inhalation: Harmful if inhaled. May cause respiratory irritation.
Ingestion: Harmful if ingested.

Chronic Health Effects

Suspected of causing cancer. May damage fertility or the unborn child.

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)
4,4'-Methylenebis(2-ethylaniline) (CAS 19900-65-3)	1.5 mg/L	500 mg/kg	1,100 mg/kg
2,2,4-trimethyl-1,3-pentanediol diisobutyrate (CAS 6846-50-0):	Not established	>2,000 mg/kg	>2,000 mg/kg

Skin Corrosion/Irritation	Harmful in contact with skin
Serious Eye Damage/Irritation	Causes eye irritation
Respiratory Irritation/Sensitization	May cause respiratory irritation
Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity	No data available
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity	
Single Exposure:	May cause respiratory irritation, drowsiness or dizziness.
Repeated Exposure:	No data available
Aspiration Hazard	No data is available.

Section 12 Ecological Information

Toxicity: Very toxic to aquatic life with long lasting effects. Do not release into waterways.

Chemical Name	Test	Species	Result
4,4'-Methylenebis(2-ethylaniline)	Not available	Not available	Not available

Persistence and Degradability

Chemical Name	Test	Period	Result
4,4'-Methylenebis(2-ethylaniline)	Not available	Not available	Not available

Bioaccumulative Potential

Chemical Name	Test	Duration	Result
4,4'-Methylenebis(2-ethylaniline)	Not available	Not available	Not available

Mobility in Soil

Chemical Name	Soil/Water Partition Coefficient (K _{oc})
4,4'-Methylenebis(2-ethylaniline)	Not available

Section 13 Disposal Considerations

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
DOT

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

UN Number: UN3082

UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S., (4,4'-Methylenebis (2-ethylaniline))

Hazard Class: 9

Packing Group: III

IATA/IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s.

(4,4'-Methylenebis(2-ethylaniline), 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
U.S. Federal Regulations

CERCLA 103 Reportable Quantity: This product is not subject to these reporting requirements. Some states have more stringent reporting requirements.

Superfund Amendments and Reauthorization Act (SARA) Section 313 Toxic Chemicals: Not listed.

U.S. State Regulations

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): This product does not contain chemicals known to the State of California to cause cancer and/or reproductive harm.

www.P65Warnings.ca.gov

Section 15 Regulatory Information

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV List of substances subject to authorization, Substances of very high concern:

Not available

Annex XVII Restriction on the manufacture, placing on the market and use of certain dangerous substances, mixtures, and articles: Not available

Chemical Inventories

U.S. Toxic Substances Control Act (TSCA): All intentionally added components are listed.

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.

Issue Date: December 1, 2021

Previous Revision Date: October 29, 2022