

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

Freeman 2060 Part A (Red Resin)

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 |
| VOC | 0.039%, 0.404 g/L |
| VOC A & B mixed (ASTM D2369) | 0.921%, 9.61 g/L |
| 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.

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.

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 |

Section 11 Toxicological Information

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: March 3, 2023

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

Freeman 2060 Part A (Clear Resin)

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) | Not applicable |
| Upper/Lower Flammability | No data available |
| Vapor Pressure | 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 |
| VOC | 0.039%, 0.404 g/L |
| VOC A & B mixed (ASTM D2369) | 0.921%, 9.61 g/L |
| 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.

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.

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

Freeman 2060 Part A (Clear Resin)

Section 11 Toxicological Information

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: March 3, 2023

Section 1 Identification

Product Identifiers

Product name: Freeman 60 Part B (Amber Hardener)

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, Inhalation, Category 4

Acute Toxicity, Oral, Category 4

Eye Irritation, Category 2B

Reproductive Toxicity, Category 1B

Specific Target Organ Toxicity – Single Exposure, Category 3

Acute Aquatic Toxicity, Category 1

Chronic Aquatic Toxicity, Category 1

GHS Label Elements, Including Precautionary Statements



Signal word: Danger

Hazard Statements

Harmful if swallowed.

Causes eye irritation.

Harmful if inhaled.

May cause respiratory irritation.

May cause drowsiness or dizziness.

May damage 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 thoroughly after handling.

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

Only use outdoors or in a well-ventilated area.

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

Avoid release into 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.

IF ON SKIN: Gently wash with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation or rash occurs, get medical attention.

Freeman 60 Part B (Amber Hardener)

Section 2 Hazards Identification continued

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

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

If exposed or concerned, get medical attention.

Collect spillage.

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

Disposal: Dispose of contents and container in accordance with all local, regional, national, and international regulations.

Supplemental Information

This is one part of a two-part system. Read and understand the hazard information on the Part A before using.

Section 3 Composition/Information on Ingredients

| Ingredient Name | CAS Number | Concentration (%) |
|-----------------------------------|------------|-------------------|
| 4,4'-Methylenebis(2-ethylaniline) | 19900-65-3 | 40-50 |
| n-Butyl phthalate | 84-74-2 | 40-50 |

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

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.

Freeman 60 Part B (Amber Hardener)

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. 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

As with any chemical product, use good laboratory/workplace procedures. Use with adequate ventilation. Wash thoroughly after handling this product. Always wash before eating, smoking, or using the facilities. Avoid eye and skin contact. Avoid inhalation of aerosol, mist, spray, fume, or vapor. Avoid drinking, tasting, swallowing, or ingesting this product. Wash contaminated clothing before reuse. Discard shoes contaminated with this product.

Safe Storage

Store indoors at 15-49°C (59-120°F), under well-ventilated conditions. Store this material away from incompatible substances (see Section 10). Store in original containers. Avoid getting moisture in containers. Keep container closed when not in use. 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 | ACGIH - STEL |
|-------------------|------------|---------------------|---------------|
| N-Butyl phthalate | 84-74-2 | 5 mg/m ³ | Not available |

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.

Eye/Face Protection

Wear safety glasses or goggles.

Skin Protection

Wear impervious gloves; such as nitrile or butyl rubber. Wear chemical resistant protective clothing.

Respiratory Protection

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

General Protection

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

Freeman 60 Part B (Amber Hardener)

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) | Not applicable |
| Upper/Lower Flammability | No data available |
| Vapor Pressure | No data available |
| Vapor Density | No data available |
| Relative Density | 1.05 |
| 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 |
| VOC | 0.75%, 7.95 g/L |
| VOC A & B mixed (ASTM D2369) | 0.921%, 9.61 g/L |
| Viscosity | 130 cP at 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: May causes skin irritation.
Inhalation: Harmful in inhaled.
Ingestion: Harmful if swallowed.

Chronic Effects

May cause an allergic skin reaction.

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 |
| n-Butyl phthalate (CAS 84-74-2): | 4,250 mg/m ³ | 8,000 mg/kg | >20,860 mg/kg |

Skin Corrosion/Irritation May cause skin irritation.
Serious Eye Damage/Irritation Causes eye irritation.
Respiratory Irritation/Sensitization May cause respiratory irritation.
Skin Sensitization No data available

Section 11 Toxicological Information

| | |
|--|--|
| Germ Cell Mutagenicity | No data available |
| Carcinogenicity | No data available |
| Reproductive Toxicity | May damage fertility or the unborn child. |
| Specific Target Organ Toxicity (STOT) | |
| Single Exposure: | May cause respiratory irritation, drowsiness or dizziness. |
| Repeated Exposure: | No data available |
| Aspiration Hazard | No data 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 |
| n-Butyl phthalate | LC50 (96 hrs.) | Fathead Minnow | 0.85 mg/L |
| | LC50 (48 hrs.) | Daphnia Magna | 3.7 mg/L |

Persistence and Degradability

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

Bioaccumulative Potential

| Chemical Name | Test | Duration | Result |
|-----------------------------------|--|---------------|---------------|
| 4,4'-Methylenebis(2-ethylaniline) | Not available | Not available | Not available |
| n-Butyl phthalate | Bioconcentration factor (BCF) - Fathead Minnow | 11 days | 2,165 |

Mobility in Soil

| Chemical Name | Soil/Water Partition Coefficient (K _{oc}) |
|-----------------------------------|---|
| 4,4'-Methylenebis(2-ethylaniline) | Not available |
| n-Butyl phthalate | 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), Dibutyl phthalate) |
| Hazard Class: | 9 |
| Packing Group : | III |

Section 14 Transport Information

IATA/IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s.
(4,4'-Methylenebis(2-ethylaniline), dibutyl phthalate), 9, III, MARINE POLLUTANT.
Exempted 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: Dibutyl phthalate RQ 10lb.

Some states have more stringent reporting requirements.

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

n-Butyl phthalate (CAS 84-74-2)

U.S. State Regulations

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

⚠ WARNING: This product can expose you to chemicals including Di-*n*-butyl phthalate (DBP), which is known to the State of California to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.

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

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

n-Butyl phthalate (CAS 84-74-2)

Annex XVII Restriction on the manufacture, placing on the market and use of certain dangerous substances, mixtures, and articles: n-Butyl phthalate (CAS 84-74-2)

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: August 24, 2022

Previous Revision Date: March 3, 2023

Section 1 Identification

Product Identifiers

Product name: Freeman 60 Part B (Black Hardener)

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, Inhalation, Category 4

Acute Toxicity, Oral, Category 4

Eye Irritation, Category 2B

Reproductive Toxicity, Category 1B

Specific Target Organ Toxicity – Single Exposure, Category 3

Acute Aquatic Toxicity, Category 1

Chronic Aquatic Toxicity, Category 1

GHS Label Elements, Including Precautionary Statements



Signal word: Danger

Hazard Statements

Harmful if swallowed.

Causes eye irritation.

Harmful if inhaled.

May cause respiratory irritation.

May cause drowsiness or dizziness.

May damage 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 thoroughly after handling.

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

Only use outdoors or in a well-ventilated area.

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

Avoid release into 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.

IF ON SKIN: Gently wash with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation or rash occurs, get medical attention.

Freeman 60 Part B (Black Hardener)

Section 2 Hazards Identification continued

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

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

If exposed or concerned, get medical attention.

Collect spillage.

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

Disposal: Dispose of contents and container in accordance with all local, regional, national, and international regulations.

Supplemental Information

This is one part of a two-part system. Read and understand the hazard information on the Part A before using.

Section 3 Composition/Information on Ingredients

| Ingredient Name | CAS Number | Concentration (%) |
|-----------------------------------|------------|-------------------|
| 4,4'-Methylenebis(2-ethylaniline) | 19900-65-3 | 40-50 |
| n-Butyl phthalate | 84-74-2 | 40-50 |

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

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.

Freeman 60 Part B (Black Hardener)

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. 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

As with any chemical product, use good laboratory/workplace procedures. Use with adequate ventilation. Wash thoroughly after handling this product. Always wash before eating, smoking, or using the facilities. Avoid eye and skin contact. Avoid inhalation of aerosol, mist, spray, fume, or vapor. Avoid drinking, tasting, swallowing, or ingesting this product. Wash contaminated clothing before reuse. Discard shoes contaminated with this product.

Safe Storage

Store indoors at 15-49°C (59-120°F), under well-ventilated conditions. Store this material away from incompatible substances (see Section 10). Store in original containers. Avoid getting moisture in containers. Keep container closed when not in use. 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 | ACGIH - STEL |
|-------------------|------------|---------------------|---------------|
| N-Butyl phthalate | 84-74-2 | 5 mg/m ³ | Not available |

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.

Eye/Face Protection

Wear safety glasses or goggles.

Skin Protection

Wear impervious gloves; such as nitrile or butyl rubber. Wear chemical resistant protective clothing.

Respiratory Protection

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

General Protection

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

Freeman 60 Part B (Black Hardener)

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 |
| Upper/Lower Flammability | No data available |
| Vapor Pressure | No data available |
| Vapor Density | No data available |
| Relative Density | 1.05 |
| 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 |
| VOC | 0.75%, 7.95 g/L |
| VOC A & B mixed (ASTM D2369) | 0.921%, 9.61 g/L |
| Viscosity | 130 cP at 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: May cause skin irritation.
Inhalation: Harmful if inhaled.
Ingestion: Harmful if swallowed.

Chronic Effects

May cause an allergic skin reaction.

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 |
| n-Butyl phthalate (CAS 84-74-2): | 4,250 mg/m ³ | 8,000 mg/kg | >20,860 mg/kg |

Skin Corrosion/Irritation May cause skin irritation.
Serious Eye Damage/Irritation Causes eye irritation.
Respiratory Irritation/Sensitization May cause respiratory irritation.
Skin Sensitization No data available

Freeman 60 Part B (Black Hardener)

Section 11 Toxicological Information

| | |
|--|--|
| Germ Cell Mutagenicity | No data available |
| Carcinogenicity | No data available |
| Reproductive Toxicity | May damage fertility or the unborn child. |
| Specific Target Organ Toxicity (STOT) | |
| Single Exposure: | May cause respiratory irritation, drowsiness or dizziness. |
| Repeated Exposure: | No data available |
| Aspiration Hazard | No data 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 |
| n-Butyl phthalate | LC50 (96 hrs.) | Fathead Minnow | 0.85 mg/L |
| | LC50 (48 hrs.) | Daphnia Magna | 3.7 mg/L |

Persistence and Degradability

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

Bioaccumulative Potential

| Chemical Name | Test | Duration | Result |
|-----------------------------------|--|---------------|---------------|
| 4,4'-Methylenebis(2-ethylaniline) | Not available | Not available | Not available |
| n-Butyl phthalate | Bioconcentration factor (BCF) - Fathead Minnow | 11 days | 2,165 |

Mobility in Soil

| Chemical Name | Soil/Water Partition Coefficient (K _{oc}) |
|-----------------------------------|---|
| 4,4'-Methylenebis(2-ethylaniline) | Not available |
| n-Butyl phthalate | 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), Dibutyl phthalate) |
| Hazard Class: | 9 |
| Packing Group : | III |

Section 14 Transport Information

IATA/IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s.
(4,4'-Methylenebis(2-ethylaniline), dibutyl phthalate), 9, III, MARINE POLLUTANT.
Exempted 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: Dibutyl phthalate RQ 10lb.

Some states have more stringent reporting requirements.

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

n-Butyl phthalate (CAS 84-74-2)

U.S. State Regulations

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

⚠ WARNING: This product can expose you to chemicals including Di-*n*-butyl phthalate (DBP), which is known to the State of California to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.

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

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

n-Butyl phthalate (CAS 84-74-2)

Annex XVII Restriction on the manufacture, placing on the market and use of certain dangerous substances, mixtures, and articles: n-Butyl phthalate (CAS 84-74-2)

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.

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