

Section 1 Identification

Product Identifiers

Freeman 2060 Red Part A (Resin)

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

Resin component of semi-rigid polyurethane elastomer.

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 44011-4043 USA
Telephone: +1 (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

Label Elements



Danger

Hazard Statements

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H330 Fatal if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Precautionary Statements

P260 Do not breathe fumes, vapors, mists or sprays.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P284 In case of inadequate ventilation, wear respiratory protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P302+P361+P354 IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P316 Get emergency medical help immediately.

P319 Get medical help if you feel unwell.

Section 2 Hazards Identification continued

P333+P317 If skin irritation or rash occurs: Get medical help.
P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents and container in accordance with local, regional, and national regulations.

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

Other ingredients are not listed because they are either not hazardous or are below cut-off/concentration thresholds.

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

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.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Clear unnecessary, unprotected personnel from the area. Wear appropriate protective clothing to prevent eye and skin contact and avoid breathing vapors.

Environmental Precautions

Avoid releases to the environment.

Methods and Materials for Containment and Cleaning Up

Cover with an inert absorbent material and collect into an appropriate container for disposal.

Section 7 Handling and Storage

Precautions for 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

Isophorone Diisocyanate (4098-71-9): ACGIH TWA 0.005 ppm

Appropriate Engineering Controls

Use with adequate general or local exhaust ventilation to minimize exposure levels.

Personal Protective Equipment

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: If needed, an approved respirator with organic vapor cartridges may be used. Respirator selection and use should be based on contaminant type, form, and concentration. For higher exposures or in an emergency, use a supplied-air respirator. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Other Protective Measures

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	>300°F (>150°C)
Evaporation Rate	No data available
Flammability (Solid, Gas)	Not applicable
Upper/Lower Flammability	No data available
Vapor Pressure	No data available

Section 9 Physical and Chemical Properties

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: Avoid excessive heat

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

Hazardous Decomposition Products: Thermal decomposition may produce carbon monoxide, carbon dioxide, and oxides of nitrogen.

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 (5124-30-1)	0.434 mg/L (4 hr.)	18,200 mg/kg	>7,000 mg/kg
Isophorone Diisocyanate (4098-71-9)	0.031 mg/L (4 hr.)	4,814 mg/kg	>7,000 mg/kg

Acute Health Effects

Eye Contact: May cause mild eye irritation.

Skin Contact: Causes severe skin burns and eye damage. May cause allergic skin reaction.

Inhalation: Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion: No data available.

Chronic Health Effects

Respiratory Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sensitization: May cause an allergic skin reaction. air, or other irritants.

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, Single Exposure: May cause respiratory irritation, drowsiness, or dizziness.

Specific Target Organ Toxicity, Repeated Exposure: No data available.

Aspiration Hazard: No data available

Section 12 Ecological Information

Ecotoxicity: Avoid release to the environment

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.)	Psudomonas Putida	554 mg/L
	EC50 (3 hrs.)	Activated Sludge	263 mg/L

Persistence and Degradability

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

Chemical Name	Test	Result	Potential
4,4'-Methylenedicyclohexyl Diisocyanate	Calculated (BCF)	10.186	Not expected

Mobility in Soil

Chemical Name	Soil/Water Partition Coefficient (K _{oc})
4,4'-Methylenedicyclohexyl Diisocyanate	110-672

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.

Section 14 Transport Information

DOT/IMDG

Not regulated for transport

IATA

UN3334, Aviation regulated liquid, n.o.s. (dicyclohexylmethane-4-4'-diisocyanate), 9, III.

Section 15 Regulatory Information

U.S. Federal Regulations

CERCLA 103 Reportable Quantity: Dibutyl phthalate RQ 10lb.
Some states have more stringent reporting requirements.

Section 15 Regulatory Information

Superfund Amendments and Reauthorization Act (SARA), Section 311/312: See Section 2
Section 313 Toxic Chemicals: N120 Diisocyanates, 4,4'-Methylenedicyclohexyl Diisocyanate (5124-30-1)
Section 302 Extremely Hazardous Substances (TPQ): None

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 other reproductive harm. www.P65Warnings.ca.gov

Chemical Inventories

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

Section 16 Other Information**Training Advice**

All personnel using/handling this product should be trained in proper chemical handling and the need for and use of engineering controls and protective equipment.

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: January 5, 2024

Date of Current Revision: December 17, 2024

Section 1 Identification

Product Identifiers

Freeman 2060 Part A (Clear Resin)

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

Resin component of semi-rigid polyurethane elastomer.

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 44011-4043 USA
Telephone: +1 (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

Label Elements



Danger

Hazard Statements

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H330 Fatal if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Precautionary Statements

P260 Do not breathe fumes, vapors, mists or sprays.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P284 In case of inadequate ventilation, wear respiratory protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P302+P361+P354 IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P316 Get emergency medical help immediately.

P319 Get medical help if you feel unwell.

Section 2 Hazards Identification continued

P333+P317 If skin irritation or rash occurs: Get medical help.
P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents and container in accordance with local, regional, and national regulations.

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

Other ingredients are not listed because they are either not hazardous or are below cut-off/concentration thresholds.

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

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.

Section 6 Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Clear unnecessary, unprotected personnel from the area. Wear appropriate protective clothing to prevent eye and skin contact and avoid breathing vapors.

Environmental Precautions

Avoid releases to the environment.

Methods and Materials for Containment and Cleaning Up

Cover with an inert absorbent material and collect into an appropriate container for disposal.

Section 7 Handling and Storage

Precautions for 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

Isophorone Diisocyanate (4098-71-9): ACGIH TWA 0.005 ppm

Appropriate Engineering Controls

Use with adequate general or local exhaust ventilation to minimize exposure levels.

Personal Protective Equipment

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: If needed, an approved respirator with organic vapor cartridges may be used. Respirator selection and use should be based on contaminant type, form, and concentration. For higher exposures or in an emergency, use a supplied-air respirator. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Other Protective Measures

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	>300°F (>150°C)
Evaporation Rate	No data available
Flammability (Solid, Gas)	Not applicable
Upper/Lower Flammability	No data available
Vapor Pressure	No data available

Section 9 Physical and Chemical Properties

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: Avoid excessive heat

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

Hazardous Decomposition Products: Thermal decomposition may produce carbon monoxide, carbon dioxide, and oxides of nitrogen.

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 (5124-30-1)	0.434 mg/L (4 hr.)	18,200 mg/kg	>7,000 mg/kg
Isophorone Diisocyanate (4098-71-9)	0.031 mg/L (4 hr.)	4,814 mg/kg	>7,000 mg/kg

Acute Health Effects

Eye Contact: May cause mild eye irritation.

Skin Contact: Causes severe skin burns and eye damage. May cause allergic skin reaction.

Inhalation: Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion: No data available.

Chronic Health Effects

Respiratory Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sensitization: May cause an allergic skin reaction. air, or other irritants.

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, Single Exposure: May cause respiratory irritation, drowsiness, or dizziness.

Specific Target Organ Toxicity, Repeated Exposure: No data available.

Aspiration Hazard: No data available

Section 12 Ecological Information

Ecotoxicity: Avoid release to the environment

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.)	Psudomonas Putida	554 mg/L
	EC50 (3 hrs.)	Activated Sludge	263 mg/L

Persistence and Degradability

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

Chemical Name	Test	Result	Potential
4,4'-Methylenedicyclohexyl Diisocyanate	Calculated (BCF)	10.186	Not expected

Mobility in Soil

Chemical Name	Soil/Water Partition Coefficient (K _{oc})
4,4'-Methylenedicyclohexyl Diisocyanate	110-672

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.

Section 14 Transport Information

DOT/IMDG

Not regulated for transport

IATA

UN3334, Aviation regulated liquid, n.o.s. (dicyclohexylmethane-4-4'-diisocyanate), 9, III.

Section 15 Regulatory Information

U.S. Federal Regulations

CERCLA 103 Reportable Quantity: Dibutyl phthalate RQ 10lb.
Some states have more stringent reporting requirements.

Freeman 2060 Part A (Clear Resin)

Section 15 Regulatory Information

Superfund Amendments and Reauthorization Act (SARA), Section 311/312: See Section 2
Section 313 Toxic Chemicals: N120 Diisocyanates, 4,4'-Methylenedicyclohexyl Diisocyanate (5124-30-1)
Section 302 Extremely Hazardous Substances (TPQ): None

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 other reproductive harm. www.P65Warnings.ca.gov

Chemical Inventories

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

Section 16 Other Information

Training Advice

All personnel using/handling this product should be trained in proper chemical handling and the need for and use of engineering controls and protective equipment.

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: January 5, 2024

Date of Current Revision: December 17, 2024

Freeman 60 Part B (Amber Hardener)

Section 1 Identification

Product Identifiers

Freeman 60 Part B (Amber Hardener)

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

Hardener component of semi-rigid polyurethane elastomer.

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 44011-4043 USA

Telephone: +1 (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)

Eye Irritation, Category 2B

Reproductive Toxin, Category 1B

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

Label Elements



Warning

Hazard Statements

H320 Causes eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H360 May damage fertility or the unborn child.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P203 Obtain, read and follow all safety instructions before use.

P261 Avoid breathing fumes, vapors, mists or sprays.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves, protective clothing, eye protection, and face protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P318 IF exposed or concerned, get medical advice.

P319 Get medical help if you feel unwell.

P337+P317 If eye irritation persists: Get medical help.

P391 Collect spillage.

P403+P233+P405 Store in a well-ventilated place. Keep container tightly closed. Store locked up.

P501 Dispose of contents and container in accordance with local, regional, and national regulations.

Section 2 Hazards Identification

Supplemental Information

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

Section 3 Composition/Information on Ingredients

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

Other ingredients are not listed because they are either not hazardous or are below cut-off/concentration thresholds.

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 if symptoms develop or persist.

Ingestion: Rinse mouth. Do NOT induce vomiting. Get medical attention if you feel unwell.

Most Important Symptoms/Effects

None known

Indication of Immediate Medical Attention/Special Treatment

Not expected to be required.

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

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 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

Clear unnecessary, unprotected personnel from the area. Wear appropriate protective clothing to prevent eye and skin contact and avoid breathing vapors. See Section 8 for recommendations.

Environmental Precautions

Avoid releases to the environment.

Section 6 Accidental Release Measures

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

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

Chemical Name	CAS Number	ACGIH-TWA	ACGIH - STEL
N-Butyl phthalate	84-74-2	5 mg/m ³	Not available

Appropriate Engineering Controls

Use with adequate general or local exhaust ventilation to minimize exposure levels.

Personal Protective Equipment

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: If needed, an approved respirator with organic vapor cartridges may be used. Respirator selection and use should be based on contaminant type, form, and concentration. For higher exposures or in an emergency, use a supplied-air respirator. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Other Protective Measures

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	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	>212°F (>100°C)
Evaporation Rate	No data available
Flammability (Solid, Gas)	No data available
Upper/Lower Flammability	No data available
Vapor Pressure	No data available

Freeman 60 Part B (Amber Hardener)

Section 9 Physical and Chemical Properties

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

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)
4,4'-Methylenedibis(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

Acute Health Effects

Eye Contact: Causes eye irritation.

Skin Contact: May cause mild skin irritation.

Inhalation: May cause respiratory irritation.

Ingestion: No data available.

Chronic Health Effects

Respiratory Sensitization: Components are not classified as respiratory sensitizers.

Skin Sensitization: Components are not classified as skin sensitizers.

Germ Cell Mutagenicity: Components are not classified as mutagens.

Carcinogenicity: Components are not classified as carcinogens.

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

Freeman 60 Part B (Amber Hardener)

Section 12 Ecological Information

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

Chemical Name	Test	Species	Result
4,4'-Methylenebis(2-ethylaniline) (CAS 19900-65-3)	Not available	Not available	Not available
n-Butyl phthalate (CAS 84-74-2)	LC50 (96 hrs.) LC50 (48 hrs.)	Fathead Minnow Daphnia Magna	0.85 mg/L 3.7 mg/L

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data 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.

Section 14 Transport Information

DOT

UN3082, Environmentally hazardous substance, liquid, n.o.s. (benzenamin, 4,4'-methylenebis[2-ethyl-, dibutyl phthalate), 9, III
Non-bulk packages (<119gal or <882lb) are not regulated for transport.

IATA/IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s. (benzenamin, 4,4'-methylenebis[2-ethyl-, dibutyl phthalate), 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: Dibutyl phthalate RQ 10lb.

Some states have more stringent reporting requirements.

Superfund Amendments and Reauthorization Act (SARA), Section 311/312: See Section 2

Section 313 Toxic Chemicals: This product does not contain chemicals subject to SARA Title III Section 313 reporting requirements.

Section 302 Extremely Hazardous Substances (TPQ): None

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 other reproductive harm. 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)

Chemical Inventories

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

Section 16 Other Information

Training Advice

All personnel using/handling this product should be trained in proper chemical handling and the need for and use of engineering controls and protective equipment.

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: January 4, 2024

Current Revision Date: December 17, 2024

Section 1 Identification

Product Identifiers

Freeman 60 Black Part B (Hardener)

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

Hardener component of semi-rigid polyurethane elastomer.

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 44011-4043 USA
Telephone: +1 (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)

Eye Irritation, Category 2B

Reproductive Toxin, Category 1B

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

Label Elements



Warning

Hazard Statements

H320 Causes eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H360 May damage fertility or the unborn child.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P203 Obtain, read and follow all safety instructions before use.

P261 Avoid breathing fumes, vapors, mists or sprays.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves, protective clothing, eye protection, and face protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P318 IF exposed or concerned, get medical advice.

P319 Get medical help if you feel unwell.

P337+P317 If eye irritation persists: Get medical help.

P391 Collect spillage.

P403+P233+P405 Store in a well-ventilated place. Keep container tightly closed. Store locked up.

P501 Dispose of contents and container in accordance with local, regional, and national regulations.

Freeman 60 Black Part B (Hardener)

Section 2 Hazards Identification

Supplemental Information

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

Section 3 Composition/Information on Ingredients

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

Other ingredients are not listed because they are either not hazardous or are below cut-off/concentration thresholds.

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 if symptoms develop or persist.

Ingestion: Rinse mouth. Do NOT induce vomiting. Get medical attention if you feel unwell.

Most Important Symptoms/Effects

None known

Indication of Immediate Medical Attention/Special Treatment

Not expected to be required.

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 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

Clear unnecessary, unprotected personnel from the area. Wear appropriate protective clothing to prevent eye and skin contact and avoid breathing vapors. See Section 8 for recommendations.

Environmental Precautions

Avoid releases to the environment.

Freeman 60 Black Part B (Hardener)

Section 6 Accidental Release Measures

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 laundry 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

Chemical Name	CAS Number	ACGIH-TWA	ACGIH - STEL
N-Butyl phthalate	84-74-2	5 mg/m ³	Not available

Appropriate Engineering Controls

Use with adequate general or local exhaust ventilation to minimize exposure levels.

Personal Protective Equipment

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: If needed, an approved respirator with organic vapor cartridges may be used. Respirator selection and use should be based on contaminant type, form, and concentration. For higher exposures or in an emergency, use a supplied-air respirator. Use respirators in accordance with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

Other Protective Measures

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	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	>212°F (>100°C)
Evaporation Rate	No data available
Flammability (Solid, Gas)	No data available
Upper/Lower Flammability	No data available
Vapor Pressure	No data available

Freeman 60 Black Part B (Hardener)

Section 9 Physical and Chemical Properties

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

Acute Toxicity Values

Chemical Name	LC ₅₀ Inhalation (Rat)	LD ₅₀ Oral (Rat)	LD ₅₀ Dermal (Rabbit)
4,4'-Methylenebix(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

Acute Health Effects

Eye Contact: Causes eye irritation.

Skin Contact: May cause mild skin irritation.

Inhalation: May cause respiratory irritation.

Ingestion: No data available.

Chronic Health Effects

Respiratory Sensitization: Components are not classified as respiratory sensitizers.

Skin Sensitization: Components are not classified as skin sensitizers.

Germ Cell Mutagenicity: Components are not classified as mutagens.

Carcinogenicity: Components are not classified as carcinogens.

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

Freeman 60 Black Part B (Hardener)

Section 12 Ecological Information

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

Chemical Name	Test	Species	Result
4,4'-Methylenebis(2-ethylaniline) (CAS 19900-65-3)	Not available	Not available	Not available
n-Butyl phthalate (CAS 84-74-2)	LC50 (96 hrs.) LC50 (48 hrs.)	Fathead Minnow Daphnia Magna	0.85 mg/L 3.7 mg/L

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data 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.

Section 14 Transport Information

DOT

UN3082, Environmentally hazardous substance, liquid, n.o.s. (benzenamin, 4,4'-methylenebis[2-ethyl-, dibutyl phthalate), 9, III.

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

IATA/IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s. (benzenamin, 4,4'-methylenebis[2-ethyl-, dibutyl phthalate), 9, III, MARINE POLLUTANT.

Excepted from IATA and IMDG regulations if shipped in quantities of 5 L (1.32 gal.) 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 311/312: See Section 2

Section 313 Toxic Chemicals: This product does not contain chemicals subject to SARA Title III Section 313 reporting requirements.

Section 302 Extremely Hazardous Substances (TPQ): None

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 other reproductive harm. 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)

Chemical Inventories

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

Section 16 Other Information

Training Advice

All personnel using/handling this product should be trained in proper chemical handling and the need for and use of engineering controls and protective equipment.

Disclaimer

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Issue Date: August 24, 2022

Previous Revision Date: January 4, 2024

Current Revision Date: December 17, 2024