Safety Data Sheet

Freeman 2040AR Part A (Resin)

Section 1 Identification

Product identifiers

Freeman 2040AR Part A (Resin)

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

Isocyanate-terminated prepolymer component of a polyurethane elastomer system.
For industrial and professional use only.

Supplier details

Freeman Manufacturing & Supply Company
1101 Moore Road, Avon, OH 44011-4043 USA
Telephone: +1 800 321-8511
Email: contactus@freemansupply.com

24 Hour emergency number:
CHEMTREC +1 800 424-9300

Section 2 Hazards Identification

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

Respiratory Sensitization, Category 1
Skin Sensitization, Category 1B
Skin Corrosion/Irritation, Category 2
Carcinogenicity, Category 2
Specific Target Organ Toxicity – Repeated Exposure, Category 2
Serious Eye Damage/Eye Irritation, Category 2B
Specific Target Organ Toxicity – Single Exposure, Category 3
Acute Toxicity, Category 4 Inhalation

Label Elements

Danger

Hazard Statements

H334 – May cause allergy or asthma symptoms of breathing difficulties if inhaled.
H317 – May cause an allergic skin reaction.
H315 – Causes skin irritation.
H351 – Suspected of causing cancer.
H373 – May cause damage to the respiratory system through prolonged or repeated exposure by inhalation.
H320 – Causes eye irritation.
H335 – May cause respiratory irritation.
H332 – Harmful if inhaled.

Precautionary Statements

P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P260 – Do not breathe fumes, mist, and vapors.
P264 – Wash skin and face thoroughly after handling.
P271 – Use only outdoors or in a well-ventilated area.
P272 – Contaminated work clothing should not be allowed out of the workplace.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P284 – In case of inadequate ventilation, wear respiratory protection.
P303+352 – IF ON SKIN (or hair): Wash with plenty of soap and water.
P304+340 – IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 – IF IN EYES: Rinse continuously with water for several minutes.
Remove contact lenses if present and easy to do. Continue rinsing.
P308+313 – IF exposed or concerned: Get medical advice/attention.
P312 – Call a POISON CENTER or doctor/physician if you feel unwell.

Section 2 Hazards Identification

P314 – Get medical advice/attention if you feel unwell.
P333+311 – If skin irritation occurs: Call a POISON CENTER or doctor/physician.
P337+311 – If eye irritation persists: Call a POISON CENTER or doctor/physician.
P342 – If experiencing respiratory symptoms: Call a doctor or emergency medical facility (i.e., 911)
P362 – Take off contaminated clothing and wash before reuse.
P403+233 – Store in a well-ventilated place. Keep container tightly closed.
P405 – Store locked up.
P501 – Dispose of contents/container in accordance with federal/state/local regulations.

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

Contains isocyanates. Inhalation of isocyanate mists or vapors may cause respiratory irritation, breathlessness, chest discomfort and reduced pulmonary function. Overexposure well above the PEL may result in bronchitis, bronchial spasms, and pulmonary edema. Long term exposure due to isocyanates has been reported to cause lung damage, including reduced lung function which may be permanent. Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactions including wheezing, shortness of breath, and difficulty breathing. Animal testing indicates that skin contact may be a factor in causing respiratory sensitization.

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
4,4'-Diphenylmethane Diisocyanate	101-68-8	40 - 70
Diphenylmethane Diisocyanate	26447-40-5	1 - 5

Section 4 First Aid Measures

Inhalation: Move to an area free from further exposure. Extreme asthmatic reactions may occur in sensitized persons and can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.
Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Seek immediate medical attention.
Skin: Flush skin with plenty of water for at least five minutes while removing contaminated clothing and shoes. Wash thoroughly with soap and water. Get medical attention if irritation or rash develops on affected area. Wash clothing before reuse.
Ingestion: Call a physician immediately. Rinse mouth and drink plenty of water. Do not induce vomiting. Remove stomach contents only as directed by medical personnel. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed: Diisocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a pre-existing, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm, and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible. Causes skin irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove. Contact with isocyanate can cause discoloration. Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing. May cause irritation of the digestive tract. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea. Delayed symptoms affecting the respiratory tract can also occur several hours after overexposure.

Section 5 Fire-Fighting Measures

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Advice for firefighters

Firefighters should wear positive pressure self-contained breathing apparatus (SCBA) and consider use of unmanned hose holders or monitor nozzles for fighting large fires. Cool fire exposed containers with water spray. Remove containers from the fire area if possible. Do not release runoff from fire control methods to sewers or waterways.

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas. Evacuate unnecessary personnel. Wear suitable personal protection equipment (PPE) described in Section 8.

Environmental precautions

Prevent migration into groundwater, sewers, or streams. Land spills may require excavation of contaminated soil. Material should not be released into the environment.

Methods and materials for containment and cleaning up

Small Amounts: Absorb isocyanate with suitable absorbent material (see 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to well ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90% water, 8% concentrated ammonia, 2% detergent. Add at a 10:1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

Large Amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

Residues: The following measures should be taken for final clean-up: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Dike spillage.

Section 7 Handling and Storage

General

Mix thoroughly before use.

Precautions for safe handling

Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Avoid breathing vapor over open containers. Avoid open container exposure to damp air. Avoid breathing aerosols, mists, and vapors. Use appropriate personal protective equipment as specified in Section 8. Handle in a well-ventilated area. Handle and use in a manner consistent with good industrial/manufacturing techniques and practices.

Conditions for safe storage, including any incompatibilities

Store material at ambient temperatures 64 - 84°F (18 – 29°C) and pressure. Keep away from sources of direct heat and moisture. Keep container tightly closed when not in use, and seal with nitrogen blanket. Moisture contamination may evolve carbon dioxide gas, which may cause containers to pressurize. Material is stable under normal conditions. Segregate from bases.

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

Component	USA.ACGIH (TLV)	USA.OSHA – TABLE Z-1 1910.
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA 0.0050 ppm Respiratory Sensitization	0.02 ppm 0.2 mg/m3
Diphenylmethane Diisocyanate (CAS 26447-40-5)	Not established	Not established

Section 8 Exposure Controls/Personal Protection

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits.

Personal Protective Equipment (PPE)

Eye: Use safety glasses equipped with side shields, or safety goggles.

Hand: Use chemical resistant gloves (i.e., nitrile, latex, butyl rubber).

Skin: Prevent skin contact when handling material. Impervious clothing, including but not limited to apron, full body suit, chemical resistant shoes or shoe covers. Use long sleeves at a minimum.

Respiratory: The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used.

Safety Stations

Eyewash stations, safety/quick-drench showers, and washing facilities should be available in work area.

General Hygienic Practices

Avoid breathing vapor or mist. Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.

Section 9 Physical and Chemical Properties

Appearance	Yellow liquid	**Vapor Pressure**	0.00001 mm Hg at 25°C (77°F)
Odor	Slight aromatic odor	**Vapor Density**	No data available
Odor threshold	No data available	**Specific Gravity**	1.04
pH	No data available	**Water Solubility**	Not soluble in water; reacts with water
Freezing/Melting Point	10°C (50°F)		
Flash Point (Closed Cup)	>200°C (>392°F)	**Coefficient: n-octanol/water**	No data available
Evaporation rate	No data available	**Auto-ignition temperature**	No data available
Flammability (solid, gas)	Not applicable	**Decomposition temperature**	No data available
Upper/lower flammability	No data available	**Viscosity**	1300 cP at 25°C (77°F)

Section 10 Stability and Reactivity

Reactivity: Stable under ambient conditions of temperature and pressure.

Hazardous Polymerization: No dangerous reactions will occur under normal use/storage conditions. Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerization.

Conditions to Avoid: Avoid moisture, extreme temperatures, and contact with incompatible materials.

Incompatible Materials: Water, alcohols, amines, strong oxidizing agents, and strong bases.

Hazardous Decomposition: Thermal oxidative decomposition can produce hydrogen cyanide, carbon oxides, nitrogen oxides, and isocyanate vapors.

Section 11 Toxicological Information

Information on toxicological effects of product

No data available

Toxicity data for 4,4'-Diphenylmethane Diisocyanate (MDI)

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
4,4'-Methylenediphenyl diisocyanate (101-68-8)	>5000 mg/kg	>9000 mg/kg	0.49 mg/l (4h)

Section 11 Toxicological Information

Skin corrosion/irritation	Moderate irritant
Serious eye damage/eye irritation	Moderate irritant
Respiratory/skin sensitization	Skin sensitizer and respiratory sensitizer
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Specific Target Organ Toxicity	
Single Exposure	No data available
Repeated Exposure	Irritating to lungs and nasal cavities

Section 12 Ecological Information

Toxicity No data available

Component	Toxicity to Fish	Acute Toxicity to Aquatic Invertebrates
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	LC50: > 500 mg/l (Zebra fish (Brachydanio rerio), 24 h)	EC50: > 500 mg/l (Water flea (Daphnia magna), 24 h)

Persistence and degradability	Product is not biodegradable
Bioaccumulative potential	No data available
Mobility in soil	No data available
Results of PBT & vPvB assessment	No data available

Section 13 Disposal Considerations

Follow applicable Federal, State, and local regulations. Spillage into sewers or watercourses is not allowed. The residues, including the empty containers, must be eliminated in a controlled manner. The empty containers must be recycled, recovered or eliminated by authorized and/or qualified administrators. In any case, the treatment adopted must be carried out in a licensed facility. Do not attempt to refill or clean containers since residue is difficult to remove. Do not burn or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers.

Section 14 Transport Information

DOT / IMDG / IATA / ICAO: Not classified as a dangerous good

Section 15 Regulatory Information

U.S. Federal Regulations

Chemical Name	CAS Number	CERCLA RQ
4,4'-Methylenediphenyl diisocyanate	101-68-8	5000 lb.

Hazardous Air Pollutants (HAP): 4,4'-Methylenediphenyl diisocyanate (101-68-8), 40-70%
CAA 112(r) TQ: None
SARA 302 Extremely Hazardous Substances: None present in regulated quantities.
SARA 313 Toxic Chemicals: 4,4'-Methylenediphenyl diisocyanate (101-68-8), 40-70%
Toxic Substance Control Act (TSCA): All ingredients listed on TSCA Inventory.

Section 16 Other Information

HMIS III

Health = 2 (chronic), Fire = 1, Physical Hazard = 1
PPE: C – Safety Glasses, Gloves, Apron

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.

Date of issue: August 29, 2025

Safety Data Sheet

Freeman 2040AR Part B (Hardener)

Section 1 Identification

Product identifiers

Freeman 2040AR Part B (Hardener)

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

Polyurethane curative component of a polyurethane elastomer system.
For industrial and professional use only.

Supplier details

Freeman Manufacturing & Supply Company
1101 Moore Road, Avon, OH 44011-4043 USA
Telephone: +1 800 321-8511
Email: contactus@freemansupply.com

24 Hour emergency number:
CHEMTREC +1 800 424-9300

Section 2 Hazards Identification

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

Not a dangerous substance according to GHS

GHS Label Elements

Pictograms: None
Signal Word: Warning
Hazard Statements: None
Precautionary Statements: None

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
Polyether polyol mixture	Proprietary	60 - 100

Section 4 First Aid Measures

Inhalation: Move to an area free from further exposure. Extreme asthmatic reactions may occur in sensitized persons and can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.
Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Seek immediate medical attention.
Skin: Flush skin with plenty of water for at least five minutes while removing contaminated clothing and shoes. Wash thoroughly with soap and water. Get medical attention if irritation or rash develops on affected area. Wash clothing before reuse.
Ingestion: Call a physician immediately. Rinse mouth and drink plenty of water. Do not induce vomiting. Remove stomach contents only as directed by medical personnel. Never give anything by mouth to an unconscious person.

Section 5 Fire-Fighting Measures

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Advice for firefighters

Firefighters should wear positive pressure self-contained breathing apparatus (SCBA) and consider use of unmanned hose holders or monitor nozzles for fighting large fires. Cool fire exposed containers with water spray. Remove containers from the fire area if possible. Do not release runoff from fire control methods to sewers or waterways.

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas. Evacuate unnecessary personnel. Wear suitable personal protection equipment (PPE) described in Section 8.

Environmental precautions

Prevent migration into groundwater, sewers, or streams. Land spills may require excavation of contaminated soil. Material should not be released into the environment.

Methods and materials for containment and cleaning up

Small Amounts: Evacuate the area. Clean-up should only be performed by trained personnel. People dealing with a major spill should wear full protective clothing including appropriate respiratory protection. Prevent product from entering sewers or waterways. Neutralize small spills with a decontaminant.

Large Amounts: Contain an absorb large spills onto an inert, non-flammable absorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spill area clean with a liquid decontaminant. Remove and properly dispose of residues.

Residues: The following measures should be taken for final clean-up: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Dike spillage.

Section 7 Handling and Storage

General

Mix thoroughly before use.

Precautions for safe handling

Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Avoid breathing vapor over open containers. Avoid open container exposure to damp air. Avoid breathing aerosols, mists, and vapors. Use appropriate personal protective equipment as specified in Section 8. Handle in a well-ventilated area. Handle and use in a manner consistent with good industrial/manufacturing techniques and practices.

Conditions for safe storage, including any incompatibilities

Store material at ambient temperatures 64 - 84°F (18 – 29°C) and pressure. Keep away from sources of direct heat and moisture. Keep container tightly closed when not in use, and seal with nitrogen blanket. Material is stable under normal conditions.

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

None established

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits.

Personal Protective Equipment (PPE)

Eye: Use safety glasses equipped with side shields, or safety goggles.

Hand: Use chemical resistant gloves (i.e. nitrile, latex, butyl rubber). Contaminated gloves should be replaced.

Skin: Prevent skin contact when handling material. Impervious clothing, including but not limited to apron, full body suit, chemical resistant shoes or shoe covers. Use long sleeves at a minimum.

Respiratory: The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used.

Safety Stations

Eyewash stations, safety/quick-drench showers, and washing facilities should be available in work area.

General Hygienic Practices

Avoid breathing vapor or mist. Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.

Section 9 Physical and Chemical Properties

Appearance	Clear liquid	**Vapor Pressure**	0.00001 mm Hg at 25°C (77°F)
Odor	Slight amine	**Vapor Density**	No data available
Odor threshold	No data available	**Specific Gravity**	1.06
pH	No data available	**Water Solubility**	Slightly
Boiling Point	No data available	**Coefficient: n-octanol/water**	No data available
Flash Point (Closed Cup)	>182°C (>359°F)	**Auto-ignition temperature**	No data available
Evaporation rate	No data available	**Decomposition temperature**	No data available
Flammability (solid, gas)	Not applicable	**Viscosity**	400 cP at 25°C (77°F)

Section 10 Stability and Reactivity

Reactivity: Stable under ambient conditions of temperature and pressure.
Conditions to Avoid: Avoid moisture, extreme temperatures, and contact with incompatible materials.
Materials to Avoid: Isocyanates, strong oxidizing agents, and strong acids.
Hazardous Decomposition: Carbon oxides, nitrogen oxides, and sulfur oxides.
Hazardous Polymerization: No dangerous reactions will occur under normal use/storage conditions.

Section 11 Toxicological Information

Information on toxicological effects of product

Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory/skin sensitization	May cause sensitization by skin contact
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Specific Target Organ Toxicity	
Single Exposure	No data available
Repeated Exposure	No data available

Section 12 Ecological Information

Toxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Results of PBT & vPvB assessment	No data available

Section 13 Disposal Considerations

Follow all applicable local, state, and federal disposal regulations. Spillage in sewers or watercourses is not allowed. The residues, including the empty containers, must be eliminated in a controlled manner. The empty containers must be recycled, recovered or eliminated by authorized and/or qualified administrators. In any case, the treatment adopted must be carried out in a licensed facility. Do not attempt to refill or clean containers since residue is difficult to remove. Do not burn or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers.

Section 14 Transport Information

DOT / IMDG / IATA / ICAO: Not classified as a dangerous good

Section 15 Regulatory Information

U.S. Federal Regulations

CERCLA RQ: None
Hazardous Air Pollutants (HAP): None
CAA 112(r) TQ: None
SARA 302 Extremely Hazardous Substances: None
SARA 313 Toxic Chemicals: None
Toxic Substance Control Act (TSCA): All ingredients listed on TSCA Inventory.

Section 16 Other Information

HMIS III

Health = 1 (chronic), Fire = 1, Physical Hazard = 0
PPE: C – Safety Glasses, Gloves, Apron

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.

Date of issue: August 29, 2025