



Safety Data Sheet

Preformed Line Products, Inc.

Product Name: UI-5854 Part A Isocyanate

Issue Date: 5/1/15

1. Product and Company Identification

Product Name: UI-5854 Part A Isocyanate

Chemical Family: Aliphatic isocyanate Prepolymer

Synonyms: Dicyclohexylmethane diisocyanate prepolymer

Company Identification

Preformed Line Products, Inc.
1700 Woodhurst Lane
Albemarle, NC 28001
United States

24-hour Emergency Telephone Numbers:

1 800 424 9300 (CHEMTREC)
1 704 984 4817 (Local)

2. Hazards Identification

This product contains 10-20% by weight of Dicyclohexylmethane-4,4'-di-isocyanate. According to Regulation 2012 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200:

Classification of the hazardous component

Acute toxicity, inhalation	3	
Skin irritant	2	
Eye irritant	2A	
Skin sensitization	1	
Respiratory sensitization	1	
Specific target organ toxicity		
Single exposure -	3	Respiratory tract (inhalation)
Repeated exposure -	2	Lungs, respiratory tract (inhalation)

Label elements

Pictograms:

Signal Word: **Danger**





Safety Data Sheet

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Issue Date: 5/1/15

Hazard Statements:

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.

Precautionary Statements (Prevention):

- P261 Avoid breathing fume/gas/mist/vapors/spray
- P264 Wash thoroughly with plenty of soap and water 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 eye protection/face protection/gloves.
- P285 In case of inadequate ventilation wear respiratory protection.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P304+P340+P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or physician.
- P362 Take off contaminated clothing and wash before reuse.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/container to an approved waste disposal plant.

Precautionary Statements (Response):

- P312 Call a POISON CENTER or physician if you feel unwell.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. If present and easy to remove, remove contact lenses. Continue rinsing.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P308+P311 If exposed or concerned: Call a POISON CENTER or physician.
- P314 Get medical advice/attention if you feel unwell.
- P303+P352 IF ON SKIN or hair: Wash with plenty of soap and water.
- P333+P311 If skin irritation or rash occurs: Call a POISON CENTER or physician.



Safety Data Sheet

Preformed Line Products, Inc.

Product Name: UI-5854 Part A Isocyanate

Issue Date: 5/1/15

P362+P364	Take off contaminated clothing and wash before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P311	If eye irritation persists: Call a POISON CENTER or physician.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statement (Disposal)

P501	Dispose of contents/containers to hazardous or special waste collection point.
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Hazards not otherwise classified

Lachrymator

Most important Acute Effects:

Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity 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 (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

May cause skin irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

May cause 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.



Safety Data Sheet

Preformed Line Products, Inc.

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Issue Date: 5/1/15

Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

3. Composition information

<u>CAS #</u>	<u>Amount</u>	<u>Component</u>
5124-30-1	10 > - < 20%	Dicyclohexylmethane-4,4'-di-isocyanate
	70 > - < 80%	Dicyclohexylmethane diisocyanate / polyol prepolymer

4. First-Aid Measures

If inhaled: Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons 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.

If on skin: Immediately remove contaminated clothing and shoes. In case of skin contact, wash affected areas with soap and water. After washing, cover affected skin area with polyethylene glycol (300-500 molecular weight) and wash again immediately with soap and water to thoroughly remove polyethylene glycol and residual isocyanate. Repeat if necessary. Get medical attention immediately. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing.

If in eyes: immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention.

If swallowed: Rinse mouth with plenty of water for at least 15 minutes. DO NOT induce vomiting. Seek immediate medical attention.

Notes to Physician

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This compound is a skin sensitizer. Treat symptomatically as for contact



Safety Data Sheet

Preformed Line Products, Inc.

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Issue Date: 5/1/15

dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

5. Fire-Fighting Measures

Suitable extinguishing media: water fog or fine spray, dry powder, carbon dioxide or alcohol-resistant foam.

Fire-fighting hazards: extremely hazardous isocyanate vapors, nitrous oxides, carbon monoxide, carbon dioxide, dense black smoke, hydrogen cyanide, isocyanic acid, other undetermined

Fire-fighting PPE: self-contained breathing apparatus and turn-out gear.

Additional hazards: Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

Environmental hazards: Dispose of fire debris and contaminated extinguishing water in accordance with regulations. Uncontained fire-water runoff may result in environmental damage.

6. Accidental Release Measures

Personal precautions: Avoid breathing vapors, gas or mist. Ensure adequate ventilation. See section 8 for PPE.

Environmental precaution: Do not discharge into drains, surface waters or groundwater.

Cleanup: Control the source of release and dike spillage as necessary. Absorb material with dirt, vermiculite, sand or clay. Collect into an open container and move to an appropriate waste storage area. Do not fill container more than 2/3 full to allow for expansion. Do not close the



Safety Data Sheet

Preformed Line Products, Inc.

Product Name: UI-5854 Part A Isocyanate

Issue Date: 5/1/15

container pressure tight. Area can be decontaminated with a mixture that is 90/8/2 of water/ammonia/detergent. Check for residual surface contamination using Swype® test kits, available from Colorimetric Laboratories, Inc. (CLI) at 847-803-3737. If the Swype® test pad demonstrates that isocyanate remains on the surface (red color on pad), repeat applications of neutralization solution, with scrubbing, followed by absorbent until the surface is decontaminated (no color change on Swype® pad).

7. Handling and Storage

Handling

General: Employ engineering controls to keep exposure within limits indicated in "Section 8". Respiratory protection must be used if the exposure limit is exceeded. Dicyclohexylmethane-4,4'-diisocyanate 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. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating.

Storage

General: Keep container tightly closed and in a well ventilated area. Outage of containers should be filled with a dry inert gas at atmospheric pressure to minimize humidity presence inside container.

Incompatibility: water, amines, strong bases, alcohols, copper alloys

Stability: Protect against moisture. Store at 77 - 122 °F.

8. Exposure Controls and Personal Protection

Workplace control parameters for dicyclohexylmethane-4,4'-diisocyanate

ACIG Threshold Limit Value: TWA = 0.0050 ppm

Lower respiratory tract irritation

OSHA - TABLE Z-1 Limits for Air Contaminants -
1910.1000: C = 0.01 ppm, 0.11mg/m³

Respiratory sensitization

NIOSH Recommended Exposure Limits: C = 0.01
ppm, 0.11mg/m³

Skin notation



Safety Data Sheet

Preformed Line Products, Inc.

Product Name: UI-5854 Part A Isocyanate

Issue Date: 5/1/15

Respiratory protection: Provide local exhaust ventilation to maintain recommended P.E.L. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For emergency or non-routine high exposure situations, including confined space, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus or a full facepiece pressure demand supplied air respirator with escape provisions.

Hand protection: Wear chemical resistant protective gloves - nitrile rubber, butyl rubber or Neoprene.

Eye protection: Use chemical resistant safety glasses with side shield. If a splash hazard exists, use chemical goggles or face shield. Eyewash fountains must be easily accessible.

Body protection: Use protective clothing that provides a chemically resistant isocyanate barrier. Selection of specific items such as face shield, boots, apron, etc. will be task dependent. Safety showers should be easily accessible. Skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction.

9. Physical and Chemical Properties (for UI-5854A)

Form:	Viscous Liquid	
Odor:	Slightly pungent	
Color:	Colorless	
pH:	Not applicable	
Specific Gravity	1.03	25 °C
Viscosity	3000 cP	25 °C
Initial boiling point	113 °C	(decomposes)
Solubility in water:	Insoluble	(reacts slowly to release CO ₂)
Solubility in other solvents:	Moderately non-polar	
Flash point	> 200 °C	ASTM D93

10. Stability and Reactivity

Conditions to avoid: moisture, extreme temperatures

Substances to avoid: water, alcohol, strong bases, amines



Safety Data Sheet

Preformed Line Products, Inc.

Product Name: UI-5854 Part A Isocyanate

Issue Date: 5/1/15

Hazardous reactions: Slowly reacts with water with the formation of carbon dioxide and a risk of bursting containers. Reacts with alcohols, acids, alkalis, amines. Reaction may be exothermic. Risk of uncontrolled polymerization above 177 °C.

Decomposition products: carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, isocyanate vapors, isocyanic acid, dense black smoke,

11. Toxicological Information

Toxicology values have not been determined on this material. Toxicology values have not been determined on every component. Toxicology values for dicyclohexylmethane-4,4'-di-isocyanate are given below.

Acute toxicity

Oral: LD50, rat, 18,200 mg/kg

Inhalation: LC50, rat, 434 mg/m³ (OECD Guideline 403)

Dermal: LD50, rabbit, >7000 mg/kg

Other acute effects: Specific target organ toxicity - single exposure: Causes temporary irritation of the respiratory tract.

Irritation/corrosion

Skin: result = rabbit, irritating - 4h (OEC Guideline 404)

Eye: result = rabbit, irritating, rabbit (OEC Guideline 405)

Sensitization

Inhalation: guinea pig, sensitizer

Dermal: mouse, sensitizer

Repeated dose toxicity

No observed adverse effect: 2 weeks, inhalation, rat, < 0.04 mg/l

No observed adverse effect: 4 weeks, inhalation, rat, 6 hrs/day, 5 days/wk, 1.06 mg/m³

Mutagenicity

Chromosome aberration test in vitro: negative

Point mutation in mammalian cells (HPRT test): negative



Safety Data Sheet

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Ames: negative (salmonella, typhimurium, Metabolic Activation: with/without)

Toxicity to reproduction/fertility

inhalation, 6hrs/day, 7days/week, rat, NOAEL (parental): 1.00 mg/m³, NOAEL (F2): 6.00 mg/m³

Developmental toxicity/teratogenicity

inhalation, rat, female, 6hrs/day, 7days/week, NAOEL (teratogenicity): 6 mg/m³, NAOEL (maternal) 1mg/m³

12. Ecological Information

Toxicity

Eco toxicological values have not been determined on this material. Eco toxicological values have not been determined on every component. Values for dicyclohexylmethane-4,4'-di-isocyanate are given below.

Fish

Static test LC50 - danio rerio (zebra fish) - 1.2 mg/l - 96 h, (OECD Test Guideline 203)

Aquatic invertebrates

Static test ECO - daphnia magna (Water flea), >= 8.3 mg/l - 48 h

Aquatic plants

static test EC50 - green algae (Scenedesmus subspicatus), >5mg/l - 72h

Microorganisms

EC50 - Sludge Treatment - 191 mg/l - 3 h, (OECD Test Guideline 209)

Degradability/Persistence

Biodegradability - aerobic, exposure time 28 d, result=0%, not readily biodegradable



Safety Data Sheet

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Issue Date: 5/1/15

13. Disposal considerations

Waste disposal of substance:

Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system.

Container disposal:

Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

14. Transport information

Land transport (DOT)

Proper Shipping Name:	Other regulated substances, liquid, n.o.s. (contains Dicyclohexylmethane-4,4'-Diisocyanate)
Hazard Class or Division:	9
UN/NA Number:	NA3082
Packing Group:	III
Hazard Label (s):	Class 9

Sea transport

IMDG	Not Regulated
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Air transport

IATA/ICAO	
Proper Shipping Name:	Aviation regulated liquid, n.o.s. (contains Dicyclohexylmethane-4,4'-Diisocyanate)
Hazard Class or Division:	9
UN/NA Number:	UN3334
Packing Group:	III
Hazard Label (s):	MISCELLANEOUS



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Issue Date: 5/1/15

15. Regulatory information

Federal Regulations:

US Toxic Substances Control Act: Listed on the TSCA inventory

US. EPA CERCLA Hazardous Substances (40 CFR 302) Components: None

SARA Section 311/312 Hazard Categories: Acute Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) Components: None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required Components: Dicyclohexylmethane-4,4'-Diisocyanate

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight Percent

10 > - < 20%

Components

Dicyclohexylmethane-4,4'-di-isocyanate

CAS-No.

5124-30-1

California Prop 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.



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NFPA Hazard Codes

Health: 3

Flammability: 1

Reactivity: 1

16. Other information

The handling of products containing reactive HMDI polyisocyanate/prepolymer and/or monomeric HMDI requires appropriate protective measures referred to in this SDS. These products are therefore recommended only for use in industrial or trade (commercial) applications. They are not suitable for use in Do-It-Yourself applications.