



2800 Enloe Street
Hudson, WI 54016

Material Safety Data Sheet Indu-Crete Part B

Emergency Telephone Number
800-535-5053

Telephone Number for Information
800-577-6213

Hazardous Ingredients/Identity Information

Chemical Type: Aromatic isocyanate, used as a curing agent for Indu-Crete Part A				
Chemical identity	CAS #	Percent	OSHA PEL	ACGIH TLV
Polymeric Diphenylmethane Diisocyanate	9016-87-9	35-50%	N/E	N/E
4,4'-Diphenylmethane Diisocyanate	101-68-8	20-35%	0.02 ppm (Ceiling)	0.005 ppm
Diphenylmethane Diisocyanate – mixed isomers	26447-40-5	20-35%	N/E	N/E
N/E = not established				

Physical Characteristics

Boiling point	~406°F	Density	10.3 lb/gal
Melting point	~41°F	Solubility in water	Insoluble
Vapor Pressure	<0.0001mmHg@77°F	Dynamic viscosity	~90 mPa·s
Appearance and odor: dark amber liquid with musty odor.			

Fire and Explosion Hazard Data

Flash point (Method used)	~410°F
Extinguishing Media: Dry chemical, carbon dioxide, foam, water spray for large fires	
Special fire fighting procedures: Exposure to heated or burning product can be particularly dangerous. Firefighters should wear self-contained breathing apparatus and NFPA-compliant helmet, hood, boots, and gloves. Avoid contact with product. Decontaminate equipment and clothing prior to reuse. Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture.	
Unusual Fire and Explosion Hazards: Material reacts with water. For large fires, use a large volume of water applied from a safe distance, as reaction with water can be vigorous.	

Reactivity Data

Stability	Stable under normal storage and use conditions	Conditions to avoid: Moisture, temperatures above 350°F
Incompatibility (<i>Materials to Avoid</i>): Water, amines, strong bases, alcohols, copper alloys		
Hazardous Decomposition or Byproducts: Oxides of nitrogen, carbon monoxide, carbon dioxide, hydrogen cyanide, isocyanates, isocyanic acid, amines and other undetermined compounds will be formed if this product is heated to decomposition or in a fire.		
Hazardous Polymerization: May occur at high temperatures, in contact with moisture, or in contact with other materials that react with isocyanates.		

Health Hazard Data

Carcinogenicity: Not regulated as a carcinogen by OSHA, IARC, or NTP.

Effects, Signs, and Symptoms of Overexposure:

Primary route of exposure: Skin or eye contact. Skin contact or inhalation (repeated or a single large dose) may result in sensitization to diisocyanates. Once sensitized, later exposure to very small amounts can cause an asthma-like reaction that can be extremely severe.

Skin contact: Skin irritant. May cause an allergic skin reaction, with burning, redness, itching, and swelling. Once someone has become sensitized, even slight contact can cause the skin reaction. Animal tests indicate that skin contact can lead to an allergic respiratory reaction.

Eye contact: Irritation. Can cause reddening, tearing, stinging, swelling. May cause temporary corneal injury.

Inhalation: Low vapor pressure; primary inhalation risk is if sprayed or heated. Can cause respiratory tract irritation, with symptoms of runny nose, sore throat, coughing, chest discomfort, and shortness of breath. People with preexisting nonspecific bronchial hyperreactivity can develop symptoms of chest discomfort, shortness of breath, or asthma-like symptoms at concentrations below the legal or recommended exposure limits. Can cause immediate or delayed hypersensitivity reactions. Repeated overexposure may cause lung damage, including a permanent decrease in lung function.

Ingestion: Not likely to occur. May cause irritation, abdominal pain, nausea, vomiting, and diarrhea.

Medical Conditions Generally Aggravated by Exposure:

Pre-existing asthma, respiratory disorders, skin allergies, and eczema may be aggravated by exposure to this product.

Emergency and First Aid Procedures:

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention if eyes are burning, tearing, red, or otherwise irritated after flushing.

Skin: Immediately remove contaminated clothing or shoes. Wash off with soap and water (lukewarm water if possible). Polyglycol-based cleaners or corn oil may be more effective than soap and water. Do not reuse clothing until thoroughly decontaminated by soaking for an hour in an 8% ammonia solution prior to laundering. Get medical attention if irritation develops.

Inhalation: Move victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration or oxygen if breathing problems develop. Get medical attention as needed; immediately if asthmatic symptoms develop. Asthmatic symptoms may not develop until several hours after exposure. Extreme asthmatic reactions can be life-threatening.

Ingestion: Do NOT induce vomiting. Rinse mouth out thoroughly. Seek medical attention immediately.

Notes to Physician:

Eye: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed.

Skin: This is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.

Inhalation: Treatment is essentially symptomatic. A person with a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the material is an irritant.

Precautions for Safe Handling and Use**Steps to Be Taken in Case Material is Released or Spilled**

Small spills: Isolate the area. Remove ignition sources. Use appropriate protective equipment. Stop the leak. Cover the spilled material with suitable absorbent material (cat litter, Oil-Dri, etc.) Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applications of decontamination solution, with scrubbing, until the surface is decontaminated. Put lid loosely on container holding the spilled material, so container can vent for 72 hours to let carbon dioxide escape.

Large spills: Evacuate non-emergency personnel. Isolate the area; prevent access. Remove ignition sources. Notify management. Put on protective equipment. Stop leak only if safe to do so. Ventilate. Contain the spill so it will not spread into drains, sewers, water supplies, or soil. Standing liquid can be pumped into closed but not sealed metal containers for disposal. Process can generate heat and carbon dioxide. Cover spill area with suitable sorbent, then use solution below to neutralize. Notify CHEMTREC (1-800-424-9300) of any spill occurring during distribution.

Neutralization solutions:

- Colorimetric Laboratories (CLI) decontamination solution
- 75% water: 20% nonionic surfactant (e.g., Poly-Tergent SL-62, Tergitol TMN-10):5% n-propanol
- 80% water: 20% nonionic surfactant (e.g., Poly-Tergent SL-62, Tergitol TMN-10)
- 90% water: 3-8% ammonium hydroxide or concentrated ammonia: 2% liquid detergent

Waste Disposal Method:

Follow federal, state, and local regulations. The material can be reacted with Part A to form an inert material. Incineration is the recommended method of disposal. The material is not a listed or characteristic hazardous waste under the Resource Conservation and Recovery Act, but state laws may vary. The end use is responsible for determining whether a material containing or derived from this should be classified as a hazardous waste.

Precautions to be Taken in Handling and Storing

Store in cool, dry, well-ventilated location. Keep containers tightly closed to prevent moisture contamination. Do not reseal if contamination is suspected. Product can react with water to produce carbon dioxide; that can cause a hazardous pressure buildup if container is tightly closed.

Wash thoroughly after handling. Do not smoke or use tobacco products during handling or use.

Material's odor threshold is significantly higher than its exposure limits. Do not rely on odor as an indicator of exposure.

Other Precautions:

Avoid breathing aerosols and mists that may be formed by spray applications. Empty containers hold product residue. Do not heat or cut empty containers, as highly toxic vapors and gases may be formed. Do not reuse without thorough commercial cleaning and reconditioning. Thoroughly drain container before disposal.

Control Measures**Respiratory Protection:**

Under normal use conditions, with general good ventilation and if material is not heated or sprayed, no respirator is required. In inadequately ventilated areas or where the material is sprayed, aerosolized, or heated and exposures may exceed occupational exposure limits, use a NIOSH-approved respirator in accord with 29CFR1910.134.

At concentrations up to ten times the TLV or PEL, an air-purifying respirator with organic vapor cartridges and P/100 particulate filters can be used, if the cartridge has an end-of-service-life indicator certified by NIOSH or if a change-out schedule, reflecting conditions of use, has been developed.

Ventilation:

Provide adequate general (dilution) ventilation to maintain worker exposure below exposure limits.

Protective Clothing:

Wear chemical resistant gloves to prevent all skin contact. Nitrile gloves are effective; butyl rubber, neoprene and PVC are also suitable. Do not use latex surgical gloves. Wear other protective clothing (boots, coveralls) as needed to prevent any skin contact.

Eye Protection:

Wear chemical safety goggles and a face shield if there is any possibility of splashing or spraying. Wear appropriate eye protection whenever handling the product.

Work/Hygienic Practices:

Eyewashes and safety showers should be available for emergency use.

Transportation Requirements

Department of Transportation Classification: Class 9, miscellaneous hazard. Packaging Group III
DOT Proper Shipping Name: Other Regulated Substance, Liquid, n.o.s. (contains 4,4'-diphenylmethane diisocyanate).
Other Requirements: NA3082, ERG Guide 156.
Reportable Quantity: 15,625 lb (5000 lb MDI)

Other Regulatory Controls

The components of this product are listed on the EPA/TSCA Inventory of Chemical Substances.
US EPA CERCLA Hazardous Substances (40CFR 302): 4,4'-diphenylmethane diisocyanate (RQ, 5000 lbs)
SARA Section 311/312 Hazard Categories: Acute Health Hazard, Chronic Health Hazard
USEPA Emergency Planning and Community Right to Know Act SARA Title III, Section 302: Extremely Hazardous Substances: this contains no listed components
USEPA Emergency Planning and Community Right to Know Act SARA Title III, Section 313: 4,4'-diphenylmethane diisocyanate and polymeric diphenylmethane diisocyanate are listed.

NFPA 704M Rating	HMIS Rating
Health: 2	Health: 2* (chronic health hazard)
Flammability: 1	Flammability: 1
Reactivity: 1	Physical Hazard: 1
Other: N/A	0=minimal, 1=slight, 2=moderate,
0=insignificant, 1=slight, 2=moderate, 3=high, 4=extreme	3=serious, 4=severe

Date Prepared: 11 November 2005	Prepared by: Janet L. Keyes, CIH
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The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process. The information is believed to be correct as of the date issued. Since the use of this information and the conditions of use of the product are not within the control of Indue Sales and Services, it is the user's obligation to determine procedures for safe use and disposal of the product and to follow the appropriate safe procedures.