



Material Safety Data Sheet

**CHEMTREC Transportation
Emergency Phone: 800-424-9300**

**Pittsburgh Poison Control
Center
Health Emergency No.: 412-681-6669**

•NOTE: The CHEMTREC Transportation
•Emergency Phone is to be used only in the
•event of chemical emergencies involving a
•spill, leak, fire, exposure or accident
•involving chemicals

Section 1 - Chemical Product / Company Information

Product Name: POLYCLAD 777 PART A
Identification Number: PLMSDS 8848A1NL
Product Use/Class: FOR INDUSTRIAL USE ONLY
Manufacturer: Carboline Company
2150 Schuetz Road
St. Louis, MO 63146
(800) 848-4645

Revision Date: 08/04/2009
Supercedes : 04/23/2009
Preparer: Regulatory, Department

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
POLYMERIC MDI	9016-87-9	45.0	N/E	N/E	N/E	N/E
4,4' MDI	101-68-8	40.0	0.005 PPM	N/E	N/E	0.2 MGM3
2,2, 2,4 MDI	26447-40-5	5.0	N/E	N/E	N/E	N/E

Section 3 - Hazards Identification

Emergency Overview: WARNING! Toxic gasses/fumes may be given off during burning or thermal decomposition. Closed container may forcibly rupture under extreme heat, or when contents have been contaminated with water. Use cold water spray to cool fire exposed containers to minimize the risk of rupture. Causes respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. Respiratory sensitizer. Lung damage and respiratory sensitization may be permanent. Causes skin irritation. May cause allergic skin reaction. Skin sensitizer. Animal tests indicate that skin contact alone may lead to allergic respiratory reaction. Causes eye irritation. May cause lung damage.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: May cause allergic skin reaction. May cause skin irritation.

Effects Of Overexposure - Inhalation: May cause nose and throat irritation. May cause lung irritation. May cause allergic respiratory reaction, effects may be permanent.

Effects Of Overexposure - Ingestion: May be harmful if swallowed. May cause irritation. Symptoms may include abdominal pain, nausea, vomiting and diarrhea.

Effects Of Overexposure - Chronic Hazards: Inhalation: As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to isocyanates (asthma or asthma like symptoms) that may cause them to react to a later exposure to diisocyanates at levels below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening.
Skin: Prolonged contact can cause 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 MDI can cause discoloration.

Eye: Prolonged vapor contact may cause conjunctivitis.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Eye Contact

Medical Conditions Prone to Aggravation by Exposure: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema. If sensitized to isocyanates or other chemicals, do not use. See a physician if a medical condition exists.

Section 4 - First Aid Measures

First Aid - Eye Contact: If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

First Aid - Skin Contact: In case of contact, wash skin immediately with soap and water.

First Aid - Inhalation: If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

First Aid - Ingestion: If swallowed do not induce vomiting. Seek immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point, F: >350F (>176.67C)
(Setaflash)

Lower Explosive Limit, %: 0.8
Upper Explosive Limit, %: 36.0

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam

Unusual Fire And Explosion Hazards: Water contamination will produce Carbon Dioxide. Do not reseal contaminated containers as pressure buildup may rupture them. This product contains less than 1% volatile components. The amount of vapors that could accumulate are minimal. However, vapors are heavier than air and could travel long distances, ignite, and flashback. Eliminate all ignition sources. Keep away from sparks, open flames, and heat sources. All electrical equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.

Special Firefighting Procedures: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, MDI vapors and other irritating, highly toxic gasses may be generated by thermal decomposition or combustion. (See stability and reactivity). At temperatures greater than 400F (204C), polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers. Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure. Since this product is water reactive, use DRY chemical powder for small fire. Use water spray, fog or foam for large fire. Do NOT use water jet.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate personal protection clothing and equipment. Follow exposure controls/personal protection guidelines in Section 8. Contain and soak up residual with an absorbent (clay or sand). Take up absorbant material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section 15 for SARA Title III and CERCLA information. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during cleanup. Major Spill: If temporary control of isocyanate is required, a blanket of protein foam (available at most fire departments) may be placed over the spill. Large quantities may be pumped into closed, but not sealed , container for disposal. Minor Spill: Absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or water (90%), concentrated ammonia (3 - 8%) and detergent (2%). Add about 10 parts neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let CO2 escape. Clean up: decontaminate floor with decontamination solution letting stand for at least 15 minutes.

Dispose of in accordance with local, state and federal regulations. Refer to Section 15 for SARA Title III and CERCLA information.

Section 7 - Handling And Storage

Handling: Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear personal protection equipment. Do not breathe vapors. Wash thoroughly after handling. If pouring or transferring materials, ground all containers and tools. Do not weld, heat, cut or drill on full or empty containers. Use only in accordance with Carboline application instructions, container label and Product Data Sheet.

Storage: Keep away from heat, sparks, open flames and oxidizing agents. Keep containers closed. Store in a cool, dry place with adequate ventilation.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).

Respiratory Protection: Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use. For silica containing coatings in a liquid state, and/or if no exposure limits are established in Section 2 above, supplied air respirators are generally not required.

Skin Protection: Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

Eye Protection: Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

Other protective equipment: Eye wash and safety showers should be readily available.

Hygienic Practices: Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

Section 9 - Physical And Chemical Properties

Boiling Range:	149 F (65 C) - 491 F (255 C)	Vapor Density:	Heavier than Air
Odor:	Slight	Odor Threshold:	N/D
Appearance:	Brown Viscous Liquid	Evaporation Rate:	Slower Than Ether
Solubility in H2O:	N/D		
Freeze Point:	N/D	Specific Gravity:	1.18
Vapor Pressure:	N/D	PH:	N/D
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Contamination with water. Heat, sparks and open flames.

Incompatibility: Water, Amines, Strong Bases, Alcohols. Will cause corrosion to copper alloys and aluminum.

Hazardous Decomposition Products: Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

Hazardous Polymerization: May occur; Contact with moisture, other materials which react with isocyanates, or temperatures above 400F (204 C), may cause polymerization.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Product LD50: N/D

Product LC50: N/D

Chemical Name	CAS Number	LD50	LC50
POLYMERIC MDI	9016-87-9	NOT AVAILABLE	NOT AVAILABLE
4,4' MDI	101-68-8	15000 MG/KG ORAL	43PPM VAPOR 4HRS
2,2, 2,4 MDI	26447-40-5	15000MG/KG ORAL	43PPM VAPOR 4HRS

Section 12 - Ecological Information

Ecological Information: Ecological data based on Polymeric MDI
Biodegradation: 0%, Exposure time: 28 Days

Bioaccumulation:
Rainbow Trout, Exposure time: 112d, <1 BCF
Does not Bioaccumulate.

Acute and Prolonged Toxicity to Fish:
LC0: >1,000 mg/l (Zebra fish (Brachydanio rerio), 96 hrs.)
LC0: > 3,000 mg/l (Killifish (Oryzias latipes), 96h)

Acute toxicity to Aquatic Invertebrates:
EC50: > 1,000 mg/l (Water flea (Daphnia magna), 24 hrs.)

Toxicity to aquatic plants:
NOEC: 1640 mg/l, End Point: growth (Green algae (Scenedesmus subspicatus), 72 hrs.)

Toxicity to Microorganisms:
EC50: > 100 mg/l, (Activated sludge microorganisms, 3 hrs.)

Ecological Data for 4,4'- Diphenylmethane Diisocyanate (MDI)
Acute and Prolonged Toxicity to Fish:
LC50: > 500 mg/l (Zebra fish (Brachydanio rerio), 24 hrs.)

Acute Toxicity to Aquatic Invertebrates:
EC50: > 500 mg/l (Water flea (Daphnia magna), 24 hrs.)

Section 13 - Disposal Information

Disposal Information: Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated	Packing Group:	N/A
DOT Technical Name:	N/A	Hazard Subclass:	N/A
DOT Hazard Class:	None	Resp. Guide Page:	N/A
DOT UN/NA Number:	None		

Additional Notes: None.

Section 15 - Regulatory Information

CERCLA - SARA HAZARD CATEGORY

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD

SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS Number</u>
POLYMERIC MDI	9016-87-9
4,4' MDI	101-68-8

TOXIC SUBSTANCES CONTROL ACT

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(B) Substances exist in this product

U.S. STATE REGULATIONS AS FOLLOWS:

NEW JERSEY RIGHT-TO-KNOW

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS Number</u>
POLYETHER POLYOL	25322-69-4

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS Number</u>
POLYETHER POLYOL	25322-69-4

CALIFORNIA PROPOSITION 65

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

No California Proposition 65 Carcinogens exist

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:

No California Proposition 65 Reproductive Toxins exist

INTERNATIONAL REGULATIONS AS FOLLOWS:

CANADIAN WHMIS

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: D2A D2B

Section 16 - Other Information

HMIS Ratings

Health: 2

Flammability: 1

Reactivity: 1

Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED): 0

REASON FOR REVISION: Changes made in Section(s) 1 and 7

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

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