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## Material Safety Data Sheet

### Section I.

#### GENERAL INFORMATION

**Product Name:** LDA-Patch-E  
**Description:** Polymeric Isocyanate.  
**Manufacturer's Name:** Carpenter Co. - Chemical Systems Division  
5016 Monument Avenue  
Richmond, Virginia 23230  
**Information Telephone:** Carpenter Co. -  
Chemical Systems Division (804) 233-0606  
**Emergency Telephone:** Chemtrec (800) 424-9300  
**Preparation Date:** September 30, 2004

### Section II.

#### HAZARDOUS INGREDIENTS

Chemical Name	Exposure Limits in Air	
	OSHA (PEL)	ACGIH (TLV)
4,4'-Diphenylmethane Diisocyanate, MDI	0.02 ppm, Ceiling	0.005 ppm, TWA
Higher MDI Oligomers	Not Est.	Not Est.

### Section III.

#### PHYSICAL CHEMICAL CHARACTERISTICS

<b>Boiling Point (°F):</b> >400 (@5mm Hg)	<b>Specific Gravity:</b> 1.22 - 1.25 (H <sub>2</sub> O=1)
<b>Vapor Pressure:</b> <0.00001 (mm Hg, @ 25°C)	<b>Melting Point (°F):</b> N.Av.
<b>Vapor Density:</b> 8.5 (MDI) (air=1)	<b>Evaporation Rate:</b> N.Av. (butyl acetate=1)

**Solubility in H<sub>2</sub>O:** Reacts slowly with water to liberate CO<sub>2</sub> gas.

**Appearance and Odor:** Dark brown liquid, slight musty odor.

### Section IV.

#### FIRE AND EXPLOSION DATA

**Flash Point (°F):** >200 (PMCC)      **LEL:** N.Av.      **UEL:** N.Av.

**Extinguishing Media:** Dry chemical, foam, CO<sub>2</sub>, water fog.

**Special Fire Fighting Procedures:** Responding personnel must wear positive pressure self-contained breathing apparatus and protective clothing.

**Unusual Fire or Explosion Hazards:** Material reacts with water. Do not reseal water-contaminated containers due to possible pressure build-up with time.

### Section V.

#### REACTIVITY DATA

**Stability:** Stable.

**Conditions to Avoid:** Reaction with moisture may form CO<sub>2</sub>.

**Incompatibility:** Water, amines, alcohols, and strong bases.

**Hazardous Decomposition Products:** Upon burning, oxides of carbon and nitrogen; traces of hydrogen cyanide.

**Hazardous Polymerization:** May occur.

**Conditions to Avoid:** Contamination with moisture and other products which react with isocyanates, or temperatures above 400°F.

## Section VI.

### **HEALTH HAZARD DATA**

**Primary Routes of Entry:** Inhalation, eye and skin contact.

#### **Acute Health Hazards:**

**Ingestion:** May result in gastrointestinal discomfort.

**Inhalation:** May cause irritation of the mucous membranes, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function.

**Eye Contact:** May cause mild to moderate eye irritation.

**Skin Contact:** May cause irritation.

**Chronic Health Hazards:** Continued overexposure may lead to sensitization resulting in asthma-like reaction upon exposure below TLV/PEL.

**Carcinogenicity:** OSHA: NO NTP: NO IARC: NO

**Symptoms of Overexposure:** Overexposure to vapors or mist may temporarily impair respiratory system and cause eye irritation.

**Medical Conditions Aggravated by Exposure:** Persons with respiratory problems or asthma should not use this product.

#### **First Aid Procedures:**

**Ingestion:** DO NOT INDUCE VOMITING. If victim is conscious, wash mouth out with water. Seek immediate medical attention.

**Inhalation:** Remove to fresh air. Assist breathing, if necessary, and seek medical attention, as required.

**Skin Contact:** Wash thoroughly with soap and water. Seek medical attention if redness develops.

**Eye Contact:** Immediately flush eyes with flowing water for at least 15 minutes. Seek immediate medical attention.

## Section VII.

### **H.M.I.S. RATING**

Health	2*
Flammability	1
Reactivity	1
Personal Protection	-

**Section VIII.**

**PRECAUTIONS FOR HANDLING AND USE**

**Steps to Be Taken in Case Materials are spilled:** For large spills, evacuate area. Responding emergency personnel must have supplied air respiratory equipment. Stop leak, dam spill, transfer liquid to a closed but not sealed container, and transport outdoors. Collect residue with absorbent and place in open container. Transport outdoors and treat with decontaminant (5% detergent and 5% ammonia in water). Treat spill area additionally with decontaminant.

**Waste Disposal Method:** Dispose of materials in accordance with Federal, state, and local regulations.

**Handling/Storage:** Store in cool dry location. Keep containers tightly closed. Avoid breathing vapors. Open containers slowly to relieve any pressure build-up.

**Other Precautions:** None known.

**Section IX.**

**CONTROL MEASURES**

**Respiratory Protection:** If airborne concentration exceeds TLV/PEL, use NIOSH approved respiratory protection.

**Ventilation:** Local exhaust as necessary to maintain concentration below TLV/PEL.

**Skin Protection:** Butyl, nitrile, or latex rubber gloves.

**Eye Protection:** Safety glasses with side shields or chemical goggles if there is a potential for splashing.

**Other Protection:** Depending on conditions of use, additional protection such as aprons and arm covers may be needed. Eyewash stations and safety shower should be near.

**Work/Hygienic Practices:** Wash thoroughly after using.

**Section X.**

**TRANSPORTATION INFORMATION**

DOT: Single containers with less than 13,889 lbs. are not regulated. Single containers with 13,889 lbs. or more are regulated as: Other regulated substances, liquid, n.o.s., 9, NA3082, PGIII, RQ, (Methylene diphenyl diisocyanate).

**Section XI.**

**REGULATORY INFORMATION**

**TOXIC SUBSTANCES CONTROL ACT (TSCA):**

The ingredients of this product are listed on the TSCA Inventory.

**SARA TITLE III INFORMATION:**

**Section 311/312 - Reportable Materials:**

4,4'-Diphenylmethane Diisocyanate, MDI - An immediate and delayed health hazard.

**Section 313 - Supplier Notification:**

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 (40 CFR 372):

<u>CAS #</u>	<u>CHEMICAL NAME</u>	<u>PERCENT BY WEIGHT</u>
None	Diisocyanates (Category N120)	100

This information must be included in all MSDS's that are copied and distributed for this material.

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