



# MATERIAL SAFETY DATA SHEET

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** M-Bond Curing Agent 10A

November 28, 2005

Vishay Micro-Measurements  
Post Office Box 27777  
Raleigh, NC 27611

**MSDS # MGM003H**

919-365-3800

CHEMTREC 1-800-424-9300 (U.S.)  
703-527-3887 (Outside U.S.)

NOTE: CHEMTREC numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

## SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

CAS NUMBER	CHEMICAL IDENTITY	%
111-40-0	Diethylenetriamine	70.0
80-05-7	Bisphenol A	30.0

## SECTION 3: HEALTH HAZARD DATA

### Routes of Entry:

**Inhalation:** YES    **Skin:** YES    **Ingestion:** Accidental

**Health Hazards (Acute and Chronic):** Carcinogenic and mutagenic studies have been negative to this point.

**Carcinogenicity:**  
NTP: Not listed  
IARC Monographs: Not listed  
OSHA Regulated: Not listed

### Signs and Symptoms of Exposure:

**INHALATION:** May cause headache, nausea, dizziness, and respiratory irritation if inhaled.

**EYE CONTACT:** May cause severe eye injury on contact, even blindness. Vapors may also cause injury.

**SKIN CONTACT:** Material is corrosive. Will cause severe skin injury (reddening, swelling, burning). Sensitizer-- may cause allergic reaction which may be severe in certain individuals. Diethylenetriamine may be absorbed through the skin which may cause effects similar to those for ingestion.

**INGESTION:** Oral dose toxicity is low. May cause gastrointestinal irritation or ulceration.

**Conditions Generally Aggravated by Exposure:** None known.

#### SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

**INHALATION:** Move victim to fresh air if symptoms occur. Consult physician.

**EYE CONTACT:** Immediate and continuous flushing with flowing water for at least 30 minutes is imperative. Consult a physician immediately.

**SKIN CONTACT:** Wipe off excess and immediately flush with water for at least 15 minutes while removing contaminated clothing and shoes. Contact physician if irritation persists.

**INGESTION:** Call a physician or poison control center immediately. Do NOT induce vomiting. Give large amounts of water or milk.

#### SECTION 5: FIRE AND EXPLOSION HAZARD DATA

**Flash Point (Method Used):** 216°F (102°C) PMCC

**Flammable limits:** LEL: 1.4 UEL: 9.2

**Extinguishing Media:** Water fog, carbon dioxide, dry chemical, or alcohol foam.

**Special Firefighting Procedures:** Wear positive pressure self-contained breathing apparatus and full protective clothing. Avoid breathing smoke.

**Unusual Fire and Explosion Hazards:** Keep non-ignited material cool with water spray.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled:** For large spills, dike and pump into appropriate containers. For small spills, dilute with water and recover or absorb with an inert absorbent material (sand, vermiculite, etc.) and place in an approved container and seal. Do not allow to contaminate water sources.

**SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION**

**Respiratory Protection:** If TLV's are exceeded local ventilation or a NIOSH organic fume respirator is recommended. A self-contained breathing apparatus is recommended in poorly ventilated areas which have a high vapor concentration.

**Ventilation:** Vent curing ovens outdoors. Mechanical ventilation may be acceptable if small amounts are used at room temperature. If TLV's are exceeded however, local ventilation is recommended.

**Protective Gloves:** Impervious latex gloves for short exposures, or butyl or neoprene rubber gloves are recommended.

**Eye Protection:** Face shield or goggles are mandatory.

**Other Protective Clothing or Equipment:** Eyewash, safety shower, and impervious protective clothing to prevent skin contact are recommended.

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

**SECTION 8: HANDLING AND STORAGE**

**Precautions to be taken in handling and storing:** Store at or below 80°F (27°C). Do not allow contact with copper, copper alloy, aluminum, or aluminum alloy materials. Bulk storage should be under nitrogen blanket.

**Other Precautions:** Avoid eye or skin contact. Do not wear contact lenses while using or in the vicinity in which the material is being used. Clothing should be washed before re-using. Severely contaminated clothing should be discarded.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Boiling Point:</b>	390°F (199°C)
<b>Vapor Pressure (mmHg):</b>	<1 @ 68°F (27°C)
<b>Vapor Density (Air = 1):</b>	3.56
<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	1.02
<b>Melting Point:</b>	Not known
<b>Evaporation Rate (BuAc = 1):</b>	N/A
<b>Volatile Organic Compounds:</b>	None
<b>Solubility in Water:</b>	Almost completely

**Appearance and Odor:** Clear liquid, ammoniacal odor.

<b>SECTION 10: STABILITY AND REACTIVITY DATA</b>
--

**Stability:** Unstable.

**Conditions to Avoid:** Heat, sparks and open flames. May autoignite at 676°F (358°C).

**Incompatibility (Materials to Avoid):** Uncontrolled exposure to strong oxidizing agents, acids, halogenated organic compounds, aldehydes, ketones, and acrylates. Mixtures with these materials will result in a temperature or pressure increase.

**Hazardous Decomposition or By-products:** Nitrogen oxides, carbon dioxide, carbon monoxide, aldehydes, and other hazardous organics.

**Hazardous Polymerization:** Will not occur.

<b>SECTION 11: TOXICOLOGICAL INFORMATION</b>
--

Diethylenetriamine

OSHA PEL:	Not known
ACGIH TLV:	1 ppm Skin
OTHER:	LD <sub>50</sub> ORAL (RAT) 1800 - 2330 mg/kg

Bisphenol A

OSHA PEL:	Not known
ACGIH TLV:	Not known
OTHER:	Not known

<b>SECTION 12: DISPOSAL CONSIDERATIONS</b>
--

**Waste Disposal Method:** Incineration with destruction and removal efficiency. Otherwise, dispose in accordance with applicable federal, state and local regulations.

<b>SECTION 13: TRANSPORTATION INFORMATION</b>
---

SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Diethylenetriamine, Corrosive Material	8	II	2079

**SECTION 14: REGULATORY INFORMATION****SECTION 313 SUPPLIER NOTIFICATION:**

This product contains a toxic chemical or chemicals (as listed below) subject to the reporting requirements of Section 313 Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

<b>CAS NUMBER</b>	<b>CHEMICAL NAME</b>	<b>% BY WEIGHT</b>
80-05-7	Bisphenol - A	30.0

**TSCA NOTIFICATION:**

All components of this product are listed in the Toxic Substance Control Act Chemical Substance Inventory (TSCA).

**SECTION 15: OTHER INFORMATION**

To the best of our knowledge, the information provided above meets the requirements of the United States Occupational Safety and Health Act and regulations established under 29 CFR 1910.1200 (g)(2)(c)(1)-(4) for a mixture of hazardous chemicals which has not been tested as a whole. The data provided on this Material Safety Data Sheet is from manufacturers of the original components. Vishay Micro-Measurements specifically disclaims any and all form of liability and/or responsibility for the application of this product.