



# MATERIAL SAFETY DATA SHEET



## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** PCH-1/PCH-1C/PCH-1T

April 14, 2010

Vishay Measurements Group, Inc.  
Post Office Box 27777  
Raleigh, NC 27611

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	100

## SECTION 3: HEALTH HAZARD DATA

### Routes of Entry:

**Inhalation:** Yes    **Skin:** Yes    **Ingestion:** Yes

**Health Hazards (Acute and Chronic):** Prolonged or repeated exposure may cause sensitization in some individuals.

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

### Signs and Symptoms of Exposure:

**INHALATION:** Vapors and mists may be corrosive to the upper respiratory tract. Repeated exposure can result in lung damage. Lung damage (scarring, bronchitis, emphysema) may be evidenced by shortness of breath, especially on exertion and may be accompanied by chronic cough.

**EYE CONTACT:** Corrosive to the eyes and may cause severe damage including blindness. Vapors may be irritating.

**SKIN CONTACT:** Corrosive to the skin. May cause skin sensitization. Skin sensitization may be evidenced by rashes, especially hives. May be toxic if absorbed through skin.

**INGESTION:** Not expected to be a relevant route of exposure. However, material is corrosive and may cause severe and permanent damage to mouth, throat and stomach. May be moderately toxic if swallowed.

**Conditions Generally Aggravated by Exposure:** Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

**NOTE:** Although the significance is unknown, Diethylenetriamine (DETA) has been found to increase the frequency of sister chromatid exchange. It was also found to be positive in the unscheduled DNA mutagenicity assay. Microbial tests and invitro gene mutation assays were negative. A lifetime skin painting study in mice did not result in carcinogenicity. Histopathological effects of the kidney, liver, spleen and adrenals were observed in two rat lifetime feeding studies.

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

**INHALATION:** Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

**EYE CONTACT:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Rinse continuously with water while on the way to get medical attention.

**SKIN CONTACT:** Immediately remove contaminated clothing and/or shoes. Wipe excess from skin and flush with plenty of water for at least 15 minutes. Follow by thoroughly washing with soap and water. Do not reuse clothing until thoroughly decontaminated. Get medical attention.

**INGESTION:** Do NOT induce vomiting. Give one glass of water unless victim is drowsy, convulsing, or unconscious. Seek medical attention immediately.

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

**Flash Point (Method Used):** 215°F (102°C) PMCC

**Flammable limits:** LEL: 1.9 UEL: 11.9

**Extinguishing Media:** Use water fog, alcohol foam, dry chemical or carbon dioxide. Water or fog may cause frothing which can be violent, especially if sprayed into containers of hot or burning liquid.

**Special Firefighting Procedures:** Material will not burn unless preheated. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full faceshield operated in positive pressure mode. Cool fire exposed containers with water.

**Unusual Fire and Explosion Hazards:** Delayed lung damage (pulmonary edema) can be experienced after exposure to combustion products, sometimes hours after the exposure. Nitrogen oxides and nitrogen containing organic compounds may be released upon combustion.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled:** Material is corrosive. Prevent all bodily contact with spilled material. Wear appropriate respirator and full-body protective clothing. Shut off leak if it is safe to do so. Eliminate potential fire hazards. Dike and contain. Soak up residue with clay, sand, or other suitable material. Place in non-leaking containers for proper disposal. Flush area with water to remove last traces of residue. Dispose of flush solutions by absorption as above. For small spills, take up with an absorbent material and place in non-leaking containers. Seal tightly for proper disposal.

## SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

**Respiratory Protection:** Do not breathe vapors/mists. If exposure may or does exceed occupational exposure limits use a NIOSH approved respirator to prevent overexposure. Use either a fullface, atmosphere supplying respirator or air purifying respirator for organic vapors. Avoid breathing vapors which may be produced under some conditions such as heating or applications of uncured material in large surface areas. Avoid breathing aerosols and mists which may be formed by various methods of application.

**Ventilation:** Use ventilation as required to control vapor concentrations.

**Protective Gloves:** Wear chemical resistant gloves.

**Eye Protection:** Wear chemical splash goggles.

**Other Protective Clothing or Equipment:** Wear chemical resistant protective clothing or apron, overshoes and a faceshield suitable to potential exposure. Emergency shower and eyewash should be available.

**Work / Hygienic Practices:** Use good industrial hygiene practices. Wash hands using soap and water after use and before eating, drinking or smoking. Wash contaminated clothing before reuse. Contaminated leather products such as shoes cannot be decontaminated and should be destroyed.

## SECTION 8: HANDLING AND STORAGE

**Precautions to be taken in handling and storing:** Store in a cool, dry, area with adequate ventilation. Keep away from open flames and high temperatures. Do not pressurize drum containers to empty them. Heating this curing agent in the presence of air may cause thermal and oxidative decomposition. With some epoxy resins, it may produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from these thermal and chemical decompositions vary widely in composition and toxicity. Do not breathe fumes. Use a NIOSH approved respirator as required to prevent over exposure.

**Other Precautions:** Containers, even those that are empty, can contain hazardous product residues.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point:	390°F (199°C)
Vapor Pressure (mmHg):	<1
Vapor Density (Air = 1):	>1
Specific Gravity (H <sub>2</sub> O = 1):	0.95
Melting Point:	NA
Evaporation Rate (BuAc = 1):	<1
Volatile Organic Compounds:	None
Solubility in Water:	Complete

**Appearance and Odor:** Yellow to colorless liquid with amine odor.

**SECTION 10: STABILITY AND REACTIVITY DATA**

**Stability:** Stable.

**Conditions to Avoid:** Avoid exposure to heat and flame.

**Incompatibility (Materials to Avoid):** Can react vigorously with strong oxidizing agents, strong Lewis or mineral acids, and strong mineral and organic bases, especially primary and secondary aliphatic amines. Reaction with some curing agents may produce considerable heat.

**Hazardous Decomposition or By-products:** Nitrogen oxides, carbon monoxide and unidentified organic compounds may be formed during combustion.

**Hazardous Polymerization:** Will not occur.

**SECTION 11: TOXICOLOGICAL INFORMATION**

Diethylenetriamine

OSHA PEL:	1 ppm SKIN TWA
ACGIH TLV:	1 ppm SKIN TWA
OTHER:	ORAL (RAT) LD <sub>50</sub> 2.33 g/kg
	SKIN (RABBIT) LD <sub>50</sub> 1090 mg/kg
	INHALATION (RAT) LC <sub>50</sub> >300 ppm/8 Hour

**SECTION 12: DISPOSAL CONSIDERATIONS**

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

**SECTION 13: TRANSPORTATION INFORMATION**

SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Diethylenetriamine Corrosive	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.

CAS NUMBER	CHEMICAL NAME	% BY WEIGHT
None		

**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. Micro-Measurements specifically disclaims any and all form of liability and/or responsibility for the application of this product.