



# MATERIAL SAFETY DATA SHEET



## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: PLH-2/PLH-3

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	%
68541-13-9	Fatty Acid Amide	72.1
9003-53-6	Polystyrene	18.3
111-40-0	Diethylenetriamine	6.7
25154-52-3	Nonylphenol	2.9

## SECTION 3: HEALTH HAZARD DATA

### Routes of Entry:

Inhalation: Yes    Skin: Yes    Ingestion: Yes

**Health Hazards (Acute and Chronic):** Repeated exposure to high concentrations of diethylenetriamine may cause respiratory tract injury and possible effects to kidneys.

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

**Signs and Symptoms of Exposure:**

**INHALATION:** Vapors are irritating. Symptoms of over-exposure may include soreness of the nose and throat, coughing and sneezing. Symptoms of central nervous system depression due to over-exposure may include headache, dizziness, drowsiness, incoordination, slowed reaction times, slurred speech, giddiness and unconsciousness. Symptoms of allergic reaction may include difficulty breathing, wheezing, tightness of chest, and respiratory failure. Repeated exposure to extremely high vapor concentrations may cause lung damage.

**EYE CONTACT:** May cause severe eye irritation. Symptoms may include redness, swelling, pain, tearing, cloudy appearance of the cornea, impaired vision and possible permanent vision impairment.

**SKIN CONTACT:** May cause severe local redness, swelling, itching, dryness, cracking, blistering and pain. Prolonged or repeated exposure may result in redness, swelling, itching, pain, blistering, ulceration, sloughing, and scar formation. These effects may not appear immediately upon exposure.

**INGESTION:** May cause damage to the gastrointestinal tissues. Symptoms may include pain, vomiting, nausea, abdominal tenderness, burns of the mouth, difficulty swallowing, blood in vomitus, blood in feces, and ulceration.

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

<b>SECTION 4: EMERGENCY AND FIRST AID PROCEDURES</b>
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**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

**EYE CONTACT:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Get medical attention.

**SKIN CONTACT:** Remove contaminated clothing and flush skin with plenty of water for 15 minutes. Call a physician. Wash contaminated clothing before reuse.

**INGESTION:** Do NOT induce vomiting. Give large quantities of water to dilute material. Call a physician.

<b>SECTION 5: FIRE AND EXPLOSION HAZARD DATA</b>
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**Flash Point (Method Used):** 215°F (102°C) Closed Cup

**Flammable limits:** LEL: NA UEL: NA

**Extinguishing Media:** Carbon dioxide, foam, dry chemical.

**Special Firefighting Procedures:** Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Do not direct a solid stream of water or foam into hot, burning pools; this may cause spattering and increase fire intensity.

**Unusual Fire and Explosion Hazards:** Oxides of nitrogen will be evolved.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled:** Wear suitable protective equipment; avoid contact with liquid and vapors. Absorb spill with clay, sand or other suitable material. Place in non-leaking container for disposal.

## SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

**Respiratory Protection:** Avoid breathing of vapors created during the cure cycle. A NIOSH approved half-mask organic vapor respirator is recommended based on airborne concentration of contaminants.

**Ventilation:** Provide appropriate local exhaust for heat curing. Curing ovens must be exhausted to outdoors or to a suitable emission control device. Provide sufficient ventilation to maintain emissions below recommended exposure limits. Cool down area should be ventilated to prevent vapors from entering the work area.

**Protective Gloves:** Butyl or neoprene.

**Eye Protection:** Chemical splash goggles.

**Other Protective Clothing or Equipment:** Chemical apron to prevent contact with material. Emergency shower and eyewash should be available in work area.

**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.

## 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 high temperatures and open flame. Keep container closed when not in use.

**Other Precautions:** Do not get in eyes, on skin, or on clothing. Avoid breathing vapors.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Boiling Point:</b>	390°F (199°C) for Diethylenetriamine
<b>Vapor Pressure (mmHg):</b>	<1
<b>Vapor Density (Air = 1):</b>	>1
<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	0.99
<b>Melting Point:</b>	NA
<b>Evaporation Rate (BuAc = 1):</b>	<1
<b>Volatile Organic Compounds:</b>	None
<b>Solubility in Water:</b>	Insoluble

**Appearance and Odor:** Brown liquid, slight ammonia odor.

**SECTION 10: STABILITY AND REACTIVITY DATA**

**Stability:** Stable.

**Conditions to Avoid:** Avoid heat, flame and contact with strong oxidizing agents.

**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. Reactions with some curing agents may produce considerable heat.

**Hazardous Decomposition or By-products:** May include carbon monoxide, carbon dioxide, and oxides of nitrogen.

**Hazardous Polymerization:** Will not occur.

**SECTION 11: TOXICOLOGICAL INFORMATION**

Fatty Acid Amide

OSHA PEL:	Not established
ACGIH TLV:	Not established
OTHER:	Not established

Polystyrene Resin

OSHA PEL:	Not established
ACGIH TLV:	Not established
OTHER:	Not established

Diethylenetriamine

OSHA PEL:	1 ppm (SKIN) TWA
ACGIH TLV:	1 ppm (SKIN) TWA
OTHER:	LD <sub>50</sub> ORAL (RAT) 1080 mg/kg LD <sub>50</sub> SKIN (RABBIT) 1090 mg/kg LC <sub>50</sub> INHALATION (RAT) >300 ppm/8 Hour

Nonylphenol

OSHA PEL:	Not established
ACGIH TLV:	Not established
OTHER:	Not established

**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
Corrosive Liquid, N.O.S. (Diethylenetriamine/Fatty Acid Amide)	8	II	1760

**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.