MATERIAL SAFETY DATA SHEET

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: PLH-1 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	%
108-45-2	M-Phenylenediamine	50.0
111-40-0	Diethylenetriamine	50.0

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

Inhalation: Yes Skin: Yes Ingestion: Yes

Health Hazards (Acute and Chronic): Exposure may result in sensitization of the skin and/or respiratory tract. Animal data suggests that repeated gross overexposure to M-Phenylenediamine may cause abnormal liver or kidney function as detected by laboratory tests.

Carcinogenicity:

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

Signs and Symptoms of Exposure:

INHALATION: Inhalation may include nonspecific discomfort, such as nausea, headache, or weakness; irritation of the upper respiratory passages, including runny nose or cough; asthma - like reactions (respiratory sensitization) with shortness of breath, wheezing or cough, possibly occurring on subsequent re-exposure to concentrations below established exposure limits; some cases of more severe respiratory sensitization may result in chronic lung disorders with symptoms of lung insufficiency.

EYE CONTACT: May cause severe eye irritation with discomfort, tearing or blurring of vision. Material is corrosive to the eyes and may cause severe damage including blindness. Vapors may be irritating.

SKIN CONTACT: May cause skin irritation with discomfort or rash. Corrosive to the skin. May cause skin sensitization with allergic skin rashes in susceptible humans. Evidence suggests that skin permeation can occur in amounts capable of producing the effects of systemic toxicity.

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

Conditions Generally Aggravated by Exposure: Individuals with pre-existing diseases of the skin, liver, kidney, or lungs may have increased susceptibility to the toxicity of excessive exposures.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen may be given. Call a physician.

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. Call a physician. Wash clothing before reuse. If molten material gets on skin, cool rapidly with cold water. Do not attempt to peel material from skin. Obtain medical treatment for thermal burn.

INGESTION: Do NOT induce vomiting unless directed to do so by medical personnel. If conscious, give large quantities of water to dilute material. Call a physician.

NOTE TO PHYSICIAN: Severe overexposure to M-Phenylenediamine may cause facial, pharyngeal, and occasionally, laryngeal edema. Death may be rapid due to acute respiratory distress.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): 215°F (101°C) PMCC

Flammable limits: LEL: NA UEL: NA

Extinguishing Media: Dry chemical or carbon dioxide for small fires; water spray, fog, or foam for large fires.

Special Firefighting Procedures: Isolate hazard and evacuate area. Firefighters should wear a self-contained breathing apparatus and full protective clothing. Stay upwind and avoid smoke and fumes. Use water spray to cool containers and reduce vapors. Do not direct a solid stream of water or foam into hot burning pools; this may cause splattering and increase fire intensity.

Unusual Fire and Explosion Hazards: Hazardous carbon monoxide and oxides of nitrogen may be produced in a fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Evacuate area and keep upwind of spill. Wear suitable protective equipment; avoid contact with liquid and vapors. If molten, contain spill with sand or earth dam. Allow to solidify and transfer to a covered metal container for disposal. Avoid causing dust. Flush area with detergent and water. Avoid discharge to sewers or waterways.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: Do not breathe vapors or mists. If exposure exceeds occupational exposure limits use a NIOSH approved respirator to prevent overexposure. Either a full-face, atmosphere-supplying respirator or air-purifying respirator for organic vapors. Positive pressure supplied air respirator equipped with a full facepiece should be used during any operation where there is potential for release of this product to workplace air.

Ventilation: Good general ventilation should be provided to keep vapor concentrations below the recommended exposure limit.

Protective Gloves: Butyl or neoprene.

Eye Protection: Chemical splash goggles.

Other Protective Clothing or Equipment: Chemical apron to prevent exposure. An emergency shower and eyewash should be available in the 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 re-use.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Store inside in a cool, dry, well-ventilated area away from heat, sparks, and flame. Do not store with strong oxidizing materials. Keep containers upright and tightly closed.

Other Precautions: Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mist. Avoid breathing dust. Wash thoroughly after handling. Do not swallow.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	390°F (199°C)
Vapor Pressure (mmHg):	<1
Vapor Density (Air = 1):	>1
Specific Gravity (H_2O = 1):	1.05
Melting Point:	NA
Evaporation Rate (BuAc = 1):	<1
Volatile Organic Compounds:	None
Solubility in Water:	Partially soluble

Appearance and Odor: Dark brown liquid, mild 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): Avoid contamination with 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: Burning can produce carbon monoxide, carbon dioxide, and oxides of nitrogen.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

M-Phenylenediamine

OSHA PEL:	Not established
ACGIH TLV:	0.1 mg/m^3 TWA
OTHER:	LD_{50} ORAL (RAT) 280 mg/kg
	LD_{LO} SKIN (RABBIT) 1500 mg/kg
	LC_{50} INH (RAT) 3.2 mg/L (aerosol) 4 Hour

Diethylenetriamine

OSHA PEL:	1 ppm (TWA) SKIN
ACGIH TLV:	1 ppm (TWA) SKIN
OTHER:	LD_{50} ORAL (RAT) 1080 mg/kg
	LD_{50} SKIN (RABBIT) 1090 mg/kg
	LC_{50} INHALATION (RAT) >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
Corrosive Liquid, Toxic, N.O.S. (Diethylenetriamine/M-Phenylenediamine)	8, 6.1	III	2922

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.