



MATERIAL SAFETY DATA SHEET



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: PLM-1/PMC-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	%
1675-54-3	Diglycidyl Ether of Bisphenol A	96.0
122-60-1	Phenyl Glycidyl Ether	3.0
26523-14-8	Adipic Acid-Ethylene Glycol Propylene Glycol Polymer	1.0
106-89-8	Epichlorohydrin*	50 ppm

*NOTE: This material can be present as a residual from Phenyl Glycidyl Ether and Epoxy Resin manufacturing. Further studies may establish a carcinogenic effect of this material on the human.

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

Inhalation: Yes Skin: Yes Ingestion: Yes

Health Hazards (Acute and Chronic): Except for skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.

Carcinogenicity:	NTP:	Yes*
	IARC Monographs:	Yes*
	OSHA Regulated:	NA

*NOTE: This product contains trace (<50 ppm) residual quantities of Epichlorohydrin (ECH), CAS # 106-89-8. ECH has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells. It has been classified by the International Agency for Research on Cancer (IARC) as a possible human carcinogen (IARC Group 2A) based on the following conclusions. Human Evidence - Inadequate; Animal Evidence - Sufficient. It has been classified as an anticipated human carcinogen by the National Toxicology Program (NTP).

Signs and Symptoms of Exposure:

INHALATION: Vapors are unlikely due to physical properties.

EYE CONTACT: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

SKIN CONTACT: May cause allergic skin reaction in susceptible individuals. Prolonged exposure is not likely to cause significant skin irritation. Repeated exposure may cause skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION: Single dose oral toxicity is low. No hazards anticipated from ingestion incidental to normal handling operations.

Conditions Generally Aggravated by Exposure: None known.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES
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INHALATION: Remove to fresh air if effects occur. Consult a physician.

EYE CONTACT: Immediately flush with plenty of water for at least 15 minutes.

SKIN CONTACT: Immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Wash clothing before re-use.

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

NOTE TO PHYSICIAN: No specific antidote. Give supportive care. Treatment based on judgement of the physician in response to reactions of the patient.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA
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Flash Point (Method Used): 485°F (252°C) PMCC

Flammable limits: LEL: NA UEL: NA

Extinguishing Media: Foam, carbon dioxide, dry chemical.

Special Firefighting Procedures: Firefighters should wear positive pressure self-contained breathing apparatus and appropriate personal protective equipment.

Unusual Fire and Explosion Hazards: None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Soak up in absorbent material such as sand and collect in suitable containers. Residual resin may be removed using steam or hot soapy water. Use of methylene chloride or other solvents in clean up poses a distinct hazard and therefore should be avoided. Keep spark producing equipment away. For large spills, evacuate upwind of spills and contain with dike.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: Good general ventilation should be sufficient for most conditions.

Ventilation:

Local Exhaust: Keep below TLV

Mechanical: Keep below TLV

Special: NA

Other: NA

Protective Gloves: Chemical resistant rubber.

Eye Protection: Use safety glasses. Where contact with this material is likely, chemical goggles are recommended because eye contact may cause discomfort even though it is unlikely to cause injury.

Other Protective Clothing or Equipment: Use protective clothing impervious to this material. Selection of specific items such as gloves and apron will depend on operation.

Work / Hygienic Practices: Use good industrial hygiene practices. Wash hands after using 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: Keep containers tightly sealed. Store below 80°F (27°C).

Other Precautions: Avoid skin and eye contact. Avoid breathing vapors of heated material.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	NA
Vapor Pressure (mmHg):	<0.1
Vapor Density (Air = 1):	>1
Specific Gravity (H ₂ O = 1):	1.16
Melting Point:	NA
Evaporation Rate (BuAc = 1):	NA
Volatile Organic Compounds:	<1%
Solubility in Water:	Negligible

Appearance and Odor: Water-white to yellow liquid to semi-solid.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: Stable.

Conditions to Avoid: Excess heating over long periods of time degrades the resin.

Incompatibility (Materials to Avoid): Bases.

Hazardous Decomposition or By-products: None under normal conditions.

Hazardous Polymerization: Will not occur by itself, but masses of more than one pound of product plus an aliphatic amine will cause irreversible polymerization with considerable heat buildup.

SECTION 11: TOXICOLOGICAL INFORMATION

Diglycidyl Ether of Bisphenol A

OSHA PEL:	Not established
ACGIH TLV:	Not established
OTHER:	ORAL (RAT) LD ₅₀ >5000 mg/kg SKIN (RABBIT) LD ₅₀ 20000 mg/kg

Phenyl Glycidyl Ether

OSHA PEL:	1 ppm (TWA)
ACGIH TLV:	1 ppm (TWA)
OTHER:	LD ₅₀ ORAL (RAT) 3.85 g/kg LD ₅₀ ORAL (MOUSE) 1.40 g/kg LD ₅₀ SKIN (RAT) 2.16 g/kg LD ₅₀ SKIN (MOUSE) 2.99 g/kg LC ₅₀ INHALATION (RAT) >100 ppm (8 HR) LC ₅₀ INHALATION (MOUSE) >100 ppm (4 HR)

Glycol Adipate Ester

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

Epichlorohydrin

OSHA PEL: 2 ppm (TWA) SKIN
 ACGIH TLV: 0.5 ppm (TWA) SKIN
 NOTE: Potential contribution to overall exposure is possible by skin absorption.

SECTION 12: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in accordance with local, state and federal environmental regulations. Burn in adequate incinerator or bury in an approved landfill in accordance with local, state and federal regulations.

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Toxic Liquid, Organic, N.O.S. (Bisphenol A Diglycidyl Ether)	6.1	III	3287

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
106-89-8	Epichlorohydrin	<0.1

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.