



MATERIAL SAFETY DATA SHEET



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: M-Bond GA-61 (Part A)

April 13, 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	%
28064-14-4	Polyglycidyl Ether of Phenol-Formaldehyde	<96
14807-96-6	Talc	5-10
25068-38-6	Epoxy Resin	10
106-89-8	Epichlorohydrin	2-3 ppm

NOTE: CAS # 25068-38-6 is an epoxy resin produced by the condensation reaction of epichlorohydrin and bisphenol A. The epichlorohydrin is consumed in the process and the residual levels are controlled to 2-3 ppm maximum.

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

Inhalation: YES Skin: YES Ingestion: Accidental

Health Hazards (Acute and Chronic): May cause allergic skin reaction in susceptible individuals. May cause sensitization with repeated or prolonged contact.

Carcinogenicity:	NTP:	Not Known
	IARC Monographs:	Not Known
	OSHA Regulated:	Not Known

NOTE: This product contains a particulate(s) that is considered hazardous per OSHA (29CFR1910.1200) and is listed in Section 2 as a precautionary warning. Under normal conditions of use, this product, as supplied, does not pose a health risk from particulate matter. Physical degradation of the cured product (i.e., sanding, abrading, etc.) may pose a dust hazard. Repeated inhalation of such dust may cause lung injury.

Signs and Symptoms of Exposure:

INHALATION: Vapors at high temperatures may cause irritation. May cause an allergic respiratory reaction.

EYE CONTACT: May cause mild eye irritation. Direct contact with the product or exposure to vapors or mist may cause stinging, tearing, redness.

SKIN CONTACT: May cause allergic skin reaction. Prolonged contact may result in discoloration, swelling, scaling and/or blistering.

INGESTION: Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Conditions Generally Aggravated by Exposure: Overexposure may aggravate existing eye, skin, and/or respiratory disorders.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES
--

INHALATION: If inhaled, move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

SKIN CONTACT: Immediately flush skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash and thoroughly clean contaminated clothing and shoes before reuse. Consult a physician.

INGESTION: If swallowed, consult a physician. Never give anything by mouth to an unconscious person.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA
--

Flash Point (Method Used): >200°F (>93.3°C)

Flammable limits: LEL: Not determined UEL: Not determined

Extinguishing Media: Foam, carbon dioxide, dry chemical and vaporizing liquid type extinguishing agents have all been found suitable for use on flammable liquid fires of moderate size.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus to avoid inhalation of smoke or vapors. Water or foam may cause frothing when streams are directed into hot burning liquid. Do not use a solid water stream as it may scatter and spread fire.

Unusual Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Remove all ignition sources. Provide adequate ventilation. Avoid breathing vapors. Shut off sources of spill if it can be done safely. Use non-sparking tools. Absorb with inert material and dispose of in accordance with applicable regulations.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: Respiratory protection may be required if material is used in poorly ventilated areas or if material is sprayed or heated.

Ventilation: Use with adequate ventilation. Provide general dilution or local exhaust ventilation in volume and pattern to keep the air contaminant concentration below the applicable exposure limit.

Protective Gloves: Impervious gloves are required.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other Protective Clothing or Equipment: As needed to minimize contact.

Work / Hygienic Practices: Wash thoroughly after handling and before eating, drinking or smoking. Emergency eyewash and safety shower should be available.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Store container out of sunlight and away from heat, sparks, and flames. Store only in well-ventilated areas. Temperatures exceeding 80°F (27°C) may cause product viscosity to become unstable.

Other Precautions: Containers may be hazardous when empty. Empty containers may retain product residue (vapor, liquid, or solid). Do not get in eyes. Avoid skin contact. Prevent repeated or prolonged breathing of vapor or spray mist. Avoid contact with or breathing of vapors during curing process.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	N/A
Vapor Pressure (mmHg):	N/A
Vapor Density (Air = 1):	N/A
Specific Gravity (H ₂ O = 1):	1.27
Melting Point:	Not known
Evaporation Rate (BuAc = 1):	N/A
Volatile Organic Compounds:	0%
Solubility in Water:	N/E

Appearance and Odor: Off-white to dark brown viscous liquid; low odor.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: Stable under normal conditions of use and storage.

Conditions to Avoid: Excess heating over long periods of time degrades resin. Avoid heat, flame sparks.

Incompatibility (Materials to Avoid): Strong oxidizing agents, bases, acids and metallic halides (salt).

Hazardous Decomposition or By-products: The by-products expected in incomplete pyrolysis or combustion of epoxy resins are mainly phenolics, carbon monoxide and water.

Hazardous Polymerization: Polymerization may occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Polyglycidyl Ether of Phenol-Formaldehyde

OSHA PEL:	N/E
ACGIH TLV:	N/E
OTHER:	LD ₅₀ (ORAL-RAT) 10,000 mg/kg LD ₅₀ (DERMAL-RABBIT) 6000 mg/kg

Diglycidyl Ether of Bisphenol A

OSHA PEL:	N/E
ACGIH TLV:	N/E
OTHER:	LD ₅₀ (IPR-RAT) 2400 mg/kg LD ₅₀ (ORAL-RAT) 10,000 mg/kg LD ₅₀ (DERMAL-RABBIT) 6000 mg/kg

M-Bond GA-61 (Part A)MSDS (Continued)

Talc

OSHA PEL: N/E
ACGIH TLV: 2.0 mg/m³
OTHER:

Epichlorohydrin

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

SECTION 12: DISPOSAL CONSIDERATIONS

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

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	UN NUMBER
---------------	-------	-----------

Not Required -- Non-hazardous for transportation.

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	2-3 ppm

TSCA NOTIFICATION:

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

CALIFORNIA PROPOSTION 65 STATUS

WARNING: This product contains a chemical known to the State of California to cause cancer.

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

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.