



# MATERIAL SAFETY DATA SHEET



## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** M-Bond A-12 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	%
25068-38-6	Epoxy	> 60
14808-60-7	Quartz(crystalline silica)	< 10
1344-28-1	Alumina/Aluminum Oxide	< 10
51274-00-1	Iron(II) Oxide, Hydrate	< 5

## SECTION 3: HEALTH HAZARD DATA

### Routes of Entry:

**Inhalation:** No    **Skin:** YES    **Eyes:** Yes

**Health Hazards (Acute and Chronic):** Depending on the route, frequency, and duration of exposure, the following organs and/or systems may be adversely affected: the eyes, skin, and the immune system (allergic reactions).

**Carcinogenicity:**  
NTP: See Note  
IARC Monographs: See Note  
OSHA Regulated: See Note

NOTE: Epoxy Resin has been shown to be mutagenic in some microbial assays, but has failed to produce mutagenic activity in others. Chromosomal aberrations have been observed in cultured rat liver cells.

**Signs and Symptoms of Exposure:**

**INHALATION:** Under normal conditions, no adverse effects are expected.

**EYE CONTACT:** Contact can cause moderate irritation.

**SKIN CONTACT:** Contact can cause moderate irritation. It can cause the development of hypersensitivity in susceptible individuals.

**INGESTION:** This product has a low order of oral toxicity. It is not expected to produce any adverse effects following acute exposure.

**Conditions Generally Aggravated by Exposure:** Some of the components in this product may aggravate existing medical conditions involving the skin or the immune system or specific chemical allergies. Consequently, certain individuals may be more susceptible to the possible effects of overexposure.

<b>SECTION 4: EMERGENCY AND FIRST AID PROCEDURES</b>
--

**INHALATION:** If vapor is inhaled, remove to fresh air. Administer oxygen if there is difficulty breathing. Give artificial respiration if breathing has stopped. Obtain medical attention without delay.

**EYE CONTACT:** In case of eye contact, flush with a steady stream of water for 15 minutes. Obtain prompt medical attention.

**SKIN CONTACT:** In case of skin contact, wash with soap and plenty of water. Remove contaminated clothing. Launder clothes before reusing. Destroy or thoroughly clean shoes before reusing. Obtain medical attention.

**INGESTION:** If swallowed, call a poison control center, emergency room, or physician. Unless advised otherwise, induce vomiting by giving either syrup of Ipecac followed by 2 glasses of water or by sticking finger down throat.

**NOTE TO PHYSICIAN:** No specific antidote is known. Therapy is directed at preventing absorption, administering to the symptoms as they occur, and providing supportive therapy.

<b>SECTION 5: FIRE AND EXPLOSION HAZARD DATA</b>
--

**Flash Point (Method Used):** >200°F (>93.3°C) Setaflash Closed Cup

**Flammable limits:** LEL: N/A UEL: N/A

**Extinguishing Media:** Use foam, carbon dioxide, dry chemical, water spray or fog.

**Special Firefighting Procedures:** Firefighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.

**Unusual Fire and Explosion Hazards:** May liberate irritating vapors during combustion or decomposition.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled:** Ventilate area, if necessary. Cover spill with an inert absorbent, such as fuller's earth, clay, or other appropriate absorbent. Place material in a suitable container for further handling and disposal. Observe all federal, state, and local reporting regulations regarding material release or spills.

## SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

**Respiratory Protection:** Where exposure exceeds established airborne limits, use a NIOSH approved respirator, a self-contained breathing apparatus, or a supplied air respirator as necessary to control exposure.

**Ventilation:** General ventilation and local exhaust may be required to maintain airborne concentrations below the established exposure limits.

**Protective Gloves:** Wear impervious gloves to prevent skin contact.

**Eye Protection:** Wear chemical splash goggles or safety glasses with sideshields.

**Other Protective Clothing or Equipment:** Wear protective clothing as necessary to prevent skin contact.

**Work / Hygienic Practices:** Wash thoroughly after use and before eating, drinking or smoking. An emergency eyewash station should be readily available.

## SECTION 8: HANDLING AND STORAGE

**Precautions to be taken in handling and storing:** Store in a cool, dry, well ventilated area.

**Other Precautions:** Avoid contact with eyes, skin, and clothing. Heating can generate vapors. Use appropriate ventilation or approved respirators as necessary.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Boiling Point:</b>	Not established
<b>Vapor Pressure (mmHg):</b>	Not applicable
<b>Vapor Density (Air = 1):</b>	Not applicable
<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	1.26
<b>Melting Point:</b>	Not known
<b>Evaporation Rate (BuAc = 1):</b>	Not applicable
<b>Volatile Organic Compounds:</b>	None
<b>Solubility in Water:</b>	Insoluble
<b>pH:</b>	Not applicable

**Appearance and Odor:** Brown viscous liquid; faint epoxy odor.

## SECTION 10: STABILITY AND REACTIVITY DATA

**Stability:** Stable under normal conditions and use.

**Conditions to Avoid:** Avoid contact with incompatible chemicals.

**Incompatibility (Materials to Avoid):** Amines, mercaptans, oxidizing agents, acids, strong bases, ammonia.

**Hazardous Decomposition or By-products:** May release irritating vapors during combustion or decomposition. Decomposition products may include phenolics, smoke, soot, carbon dioxide, carbon monoxide, and metallic oxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

This section provides toxicological information with regard to the pure form of the components indicated. This information can be subject to misinterpretation. It is therefore suggested that this information be interpreted by persons trained in its evaluation.

### Epoxy Resin:

LD50 Acute Oral Rat: 11.4 g/kg

LD50 Acute Dermal Rabbit: >20,000 mg/kg

Quartz, (Crystalline Silica): Can cause mechanical irritation to the eyes, skin, and gastrointestinal tract. Chronic exposure to crystalline silica dusts can cause silicosis, a fibrotic condition caused by deposition of silicon dioxide particles. Chest pain, and progressive impairment of pulmonary function characterize a silicotic condition. Epidemiological studies indicate lung cancer is more prevalent among individuals affected with silicosis than the general public. A significant incidence of adenocarcinomas and squamous cell carcinomas of the lung was induced in rats exposed to quartz dusts following inhalation and intratracheal administration.

Alumina: Can cause mechanical irritation to the eyes and skin. Treat as a nuisance dust. High concentrations inhaled chronically can lead to the deposition of particulates in the lungs (pneumoconiosis). Alumina may contain, as an impurity, trace amounts of asbestos and crystalline silica.

Iron (II) Oxide, Hydrate: May cause mechanical irritation to the eyes and skin. Prolonged and repeated irritation can lead to the deposition of iron particles in the lungs, (siderosis).

NOTE: Due to this product's physical composition, the release or generation of dust is not expected to occur under normal conditions of use.

## 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 regulated.

**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
1344-28-1	Aluminum Oxide	5-10

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

**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.