



# MATERIAL SAFETY DATA SHEET

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** M-Bond A-12 (Part B)

November 29, 2005

Vishay Micro-Measurements  
Post Office Box 27777  
Raleigh, NC 27611

**MSDS # MGM005J**

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	%
68410-23-1	Polyamide Resin	60-80
1344-28-1	Alumina/Aluminum Oxide	30-40
13463-67-7	Titanium Dioxide	1-5

## SECTION 3: HEALTH HAZARD DATA

### Routes of Entry:

**Inhalation:** YES   **Skin:** YES   **Eyes:** YES

**Health Hazards (Acute and Chronic):** None known.

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

### Signs and Symptoms of Exposure:

**INHALATION:** May cause irritation to the upper respiratory tract. Avoid prolonged or repeated inhalation.

**EYE CONTACT:** Contact causes irritation on prolonged or repeated exposure.

**SKIN CONTACT:** Contact can cause irritation on prolonged or repeated exposure.

**INGESTION:** Do not take internally. Swallowing may cause burns to the mouth, throat, and digestive tract. Swallowing can cause gastrointestinal irritation or ulceration.

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

#### SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

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

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

**SKIN CONTACT:** In case of skin contact, immediately wash with soap and plenty of water for at least 15 minutes. For large exposures use an emergency shower. Remove contaminated clothing and shoes. Launder clothes separately before reusing. Obtain immediate medical attention.

**INGESTION:** If swallowed, do not induce vomiting. Seek immediate medical attention; call a poison control center, emergency room, or physician. Rinse mouth with water and give 2 cups of water to drink. Do not give carbonated drinks.

#### SECTION 5: FIRE AND EXPLOSION HAZARD DATA

**Flash Point (Method Used):** >500°F (260°C) Cleveland Open Cup

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

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

**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, evacuate if airborne levels could exceed established limits. 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. Flush area with dilute (5%) acetic acid, collect, and dispose. Observe all federal, state, and local reporting regulations regarding material release or spills.

**SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION**

**Respiratory Protection:** Avoid breathing vapor or mist. Use a NIOSH approved respirator, or 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 control exposure.

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

**Eye Protection:** Wear chemical splash goggles. Contact lenses should not be worn.

**Other Protective Clothing or Equipment:** Wear impervious clothing as needed to prevent contact with skin.

**Work / Hygienic Practices:** Wash thoroughly after use. Safety shower and 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. Do not store above 120°F (49°C).

**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 determined
<b>Vapor Pressure (mmHg):</b>	Not determined
<b>Vapor Density (Air = 1):</b>	Not determined
<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	>0.97
<b>Melting Point:</b>	Not known
<b>Evaporation Rate (BuAc = 1):</b>	<0.001
<b>Volatile Organic Compounds:</b>	None
<b>Solubility in Water:</b>	Not determined
<b>pH:</b>	Not determined

**Appearance and Odor:** Light gray paste; ammoniacal 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):** Oxidizing agents.

**Hazardous Decomposition or By-products:** May produce hazardous fumes in fire.

**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.

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. OSHA PEL: 10 mg/m<sup>3</sup> (Total Particulate).

Polyamide Resin: Inhalation of vapors or mists can result in irritation of the respiratory tract. Contact can cause eye and skin irritation or burns. Possible skin and respiratory sensitizer. Ingestion may cause severe burns of the mouth and throat and irritation of the gastrointestinal tract.

Titanium Dioxide: Can cause eye irritation. Prolonged inhalation can lead to the development of pneumoconiosis. OSHA PEL: 5 mg/m<sup>3</sup> (Respirable Fraction) 10 mg/m<sup>3</sup> (Total Particulate).

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	Alumina/Aluminum Oxide	30-40

**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.