



MATERIAL SAFETY DATA SHEET

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: M-Bond Curing Agent 600/610

October 21, 2005

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

MSDS # MGM013L

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	%
109-99-9	Tetrahydrofuran	88.25
89-32-7	1,2,4,5-Benzenetetracarboxylic Dianhydride	8.8
89-05-4	1,2,4,5-Benzenetetracarboxylic Acid	2.95

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

Inhalation: YES **Skin:** Accidental **Ingestion:** Accidental

Health Hazards (Acute and Chronic): Chronic over-exposure may include kidney and/or liver damage. Acute over-exposure may induce narcosis and/or loss of consciousness. May be a skin sensitizer to some individuals.

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

Signs and Symptoms of Exposure:

INHALATION: May cause headache, vomiting, nausea, dizziness, narcosis, respiratory failure, low blood pressure, central nervous system depression, coughing and difficult breathing and/or loss of consciousness.

EYE CONTACT: May cause severe irritation or burns, tearing, and redness.

SKIN CONTACT: May cause severe irritation or burns, defatting, and dermatitis.

INGESTION: May cause headache, nausea, vomiting, dizziness and gastrointestinal irritation.

Medical Conditions Generally Aggravated by Exposure: Skin disorders, respiratory system disease.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, administer artificial respiration and/or oxygen. Get medical attention if needed.

EYE CONTACT: Immediately flush eyes with copious amounts of water for 15 minutes while holding eyelids open.

SKIN CONTACT: Immediately flush thoroughly while removing contaminated clothing. Wash affected area with soap and water. Wash contaminated clothing before reuse.

INGESTION: If swallowed wash out mouth with water provided person is conscious. Continue to give large quantities of water. Do NOT induce vomiting. Get medical attention.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): 6°F (-14°C) PMCC

Flammable limits: LEL: 1.8 UEL: 11.8

Extinguishing Media: Alcohol foam, dry chemical, carbon dioxide. Water may be ineffective.

Special Firefighting Procedures: Firefighters should wear proper protective equipment and self-contained breathing apparatus. Cool fire-exposed containers.

Unusual Fire and Explosion Hazards: Vapors may flow along surfaces to distant ignition sources and flash back. Sealed containers may explode when exposed to high heat. Strong oxidizers can cause ignition.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Remove all sources of ignition. Wipe up with absorbent material such as sand or vermiculite. Flush affected area with water.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: Respiratory protection required if airborne concentration exceeds TLV. At concentrations up to 1000 ppm, a cartridge respirator is recommended. Above this level, a self-contained breathing apparatus is recommended.

Ventilation:

Local Exhaust: Keep below TLV

Mechanical: Keep below TLV

Special: N/E

Other: N/E

Protective Gloves: Neoprene gloves are recommended.

Eye Protection: Chemical splash goggles are recommended.

Other Protective Clothing or Equipment: Impervious over-clothing as needed. Safety shower and eye wash station in local area.

Work / Hygienic Practices: Wash thoroughly after using.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Store below 80°F (27°C) in a dry, well ventilated, flammable liquid area.

Other Precautions: Keep containers tightly sealed. Avoid prolonged exposure to vapors and skin contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	151°F (66°C)
Vapor Pressure (mmHg):	145 @ 59°F (15°C)
Vapor Density (Air = 1):	2.5
Specific Gravity (H₂O = 1):	0.9
Melting Point:	N/A
Evaporation Rate (BuAc = 1):	14.5
Volatile Organic Compounds:	705 g/liter
Solubility in Water:	Complete

Appearance and Odor: Colorless to amber colored liquid; ether-like odor.

SECTION 10: STABILITY AND REACTIVITY DATA
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Stability: Stable.

Conditions to Avoid: Heat, sources of ignition.

Incompatibility (Materials to Avoid): Strong oxidizing agents, acids, bases, alcohol, water.

Hazardous Decomposition or By-products: Oxides of carbon, explosive peroxides.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION
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Tetrahydrofuran

OSHA PEL:	200 ppm (TWA)
ACGIH TLV:	200 ppm
OTHER:	LD ₅₀ IPR (RAT) 2900 mg/kg LC ₅₀ INHAL (RAT) 78 g/m ³

1,2,4,5-Benzenetetracarboxylic Anhydride

OSHA PEL:	Not known
ACGIH TLV:	Not known
OTHER:	LD ₅₀ ORAL (MUS) 2400 mg/kg

1,2,4,5-Benzenetetracarboxylic Acid

OSHA PEL:	Not known
ACGIH TLV:	Not known
OTHER:	0.25 mg/m ³ Respirable Dust per manufacturer

SECTION 12: DISPOSAL CONSIDERATIONS
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Waste Disposal Method: Dispose of in accordance with local, state, and federal regulations.

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Flammable Liquids, N.O.S. (Tetrahydrofuran)	3	II	1993

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