



MATERIAL SAFETY DATA SHEET



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: M-Bond 300 Resin (Lot # 073 and Higher)

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	%
Proprietary	Vinyl Ester Resin	53.0
100-42-5	Styrene Monomer	44.0
112945-52-5	Silica, Amorphous, Fumed, Crystalline Free	<1.75

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

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

Health Hazards (Acute and Chronic): Over-exposure to this material (or its components) has been suggested as a cause of the following effects in humans and may aggravate pre-existing disorders of these organs: central nervous system effects, effects on hearing, and respiratory tract damage.

Carcinogenicity: NTP: See note
 IARC Monographs: See note
 OSHA Regulated: See note

NOTE: This material contains styrene which is listed by the International Agency for Research on Cancer (IARC) as a group 2B cancer causing agent (possibly carcinogenic to humans).

Signs and Symptoms of Exposure:

INHALATION: Harmful if inhaled. Effects from exposure may include headaches, fatigue, nausea, sensation of drunkenness, central nervous system depression and pulmonary edema. Inhalation of vapor or aerosol may cause irritation to the respiratory tract (nose, throat and lungs).

EYE CONTACT: Harmful to eyes. Direct contact with this material causes eye irritation. Symptoms may include stinging, tearing, redness and swelling.

SKIN CONTACT: Harmful if absorbed through the skin. Prolonged or frequent skin contact may cause defatting and dryness of the skin.

INGESTION: Harmful if swallowed. Single dose oral toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may be harmful. Effects from exposure through ingestion may include gastrointestinal disturbances, pain and discomfort. Effects of exposure by ingestion may also include those indicated for inhalation. Styrene is harmful or fatal if liquid is aspirated into lungs.

Conditions Generally Aggravated by Exposure: Over exposure may aggravate pre-existing disorders of the central nervous system, hearing and respiratory tract.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES
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INHALATION: Remove victim to fresh air. Keep warm and quiet. If not breathing give artificial respiration. If breathing is difficult, give oxygen by trained personnel. Get immediate medical attention.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical aid.

SKIN CONTACT: Wash with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

INGESTION: Do NOT induce vomiting. Aspiration hazard: This material may enter the lungs during vomiting. Immediately give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA
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Flash Point (Method Used): 89°F (32°C)

Flammable limits: LEL: >1.1 (styrene) UEL: <7.0 (styrene)

Extinguishing Media: Water fog, foam, dry chemical, carbon dioxide.

Special Firefighting Procedures: Firefighters and others exposed to vapors or products of combustion should wear self-contained breathing apparatus and full fire-fighting protective clothing. Equipment should be thoroughly decontaminated after use.

Unusual Fire and Explosion Hazards: Flammable liquid. Vapors can form an explosive mixture with air. Vapor can travel to a source of ignition (spark or flame) and flash back. This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: For small spills, absorb with inert material (e.g., dry sand, earth), then place in a chemical waste container. Use non-sparking (non-metallic) tools to clean up spill. Remove all sources of ignition. No smoking. For large spills, eliminate all ignition sources. No smoking. Persons not wearing protective equipment should be excluded from the area of the spill until clean-up has been completed. Stop spill at source. Prevent spilled material from contaminating soil or entering drains, sewers, streams or other bodies of water. Prevent spilled material from spreading. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other waste materials to waste containers for disposal.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: If TLV or PEL is exceeded, suitable respiratory protection must be worn to prevent overexposure.

Ventilation: The use of local ventilation may be required to maintain exposures below the regulatory or recommended occupational exposure limits during certain operations. Use explosion proof ventilation equipment.

Local Exhaust: General ventilation is required during normal use. Local ventilation may be required during certain operations to keep exposure levels below the TLV.

Mechanical: Keep below TLV

Special: N/A

Other: N/A

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

Eye Protection: Wear safety glasses with sideshields and a faceshield or chemical goggles and a faceshield.

Other Protective Clothing or Equipment: If splashing is likely, wear protective clothing to prevent skin contact.

Work / Hygienic Practices: Wash thoroughly after handling and before eating or drinking. Eyewash station and emergency shower should be available.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Avoid storage above 100°F (38°C). Avoid prolonged or repeated skin contact. Avoid inhalation of heated vapors or spray mists. Ground and bond containers when transferring the material to prevent static electricity sparks which could ignite the vapor. Keep away from ignition sources. Do not store in direct sunlight. Store separate from oxidizing materials, peroxides and metal salts. Keep container closed when not in use.

Other Precautions: Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	295°F (146°C)
Vapor Pressure (mmHg):	6.12 (styrene)
Vapor Density (Air = 1):	3.6 (styrene)
Specific Gravity (H₂O = 1):	1.12-1.14
Melting Point:	Not applicable
Evaporation Rate (BuAc = 1):	<1 (styrene)
Volatile Organic Compounds:	475 grams/liter
Solubility in Water:	Insoluble at 68°F (20°C)

Appearance and Odor: Amber, opaque liquid.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: Stable at normal temperatures and storage conditions.

Conditions to Avoid: Heat and direct sunlight.

Incompatibility (Materials to Avoid): Avoid contact with oxidizing materials such as peroxides, chlorates and permanganates.

Hazardous Decomposition or By-products: Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.

Hazardous Polymerization: Product will undergo hazardous polymerization at temperatures above 150°F (65°C). Hazardous polymerization will occur if contaminated with peroxides, metal salts, and polymerization catalysts.

SECTION 11: TOXICOLOGICAL INFORMATION

Styrene

OSHA PEL:	100 ppm
ACGIH TLV:	20 ppm
OTHER:	40 ppm (STEL)

Silica

OSHA PEL:	80 mg/m ³
ACGIH TLV:	10 mg/m ³
OTHER:	

SECTION 12: DISPOSAL CONSIDERATIONS
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Waste Disposal Method: This material is a RCRA hazardous waste. Material and containers that are not empty, if discarded, would be regulated as a hazardous waste. Treatment and/or disposal must be completed at a RCRA-permitted treatment storage and disposal facility.

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Resin Solution	3	III	1866

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
100-42-5	Styrene	33.0-37.0

TSCA NOTIFICATION:

All components of this product, for which CAS Numbers have been established 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.