



MATERIAL SAFETY DATA SHEET

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: M-Bond 300 Catalyst

November 18, 2005

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

MSDS # MGM009I

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	%
131-11-3	Dimethyl Phthalate	40.0-42.0
1338-23-4	Methyl Ethyl Ketone Peroxide	26.0-28.0
1119-40-0	Dimethyl Glutarate	10.0-12.0
25265-71-8	Dipropylene Glycol	7.0-9.0
627-93-0	Dimethyl Adipate	3.0-5.0
7722-84-1	Hydrogen Peroxide	3.0-5.0
7732-18-5	Water	3.0-5.0
78-93-3	Methyl Ethyl Ketone	1.0-2.0

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

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

Health Hazards (Acute and Chronic): Prolonged inhalation of vapors may cause mucous membrane irritation and vertigo.

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

Signs and Symptoms of Exposure:

INHALATION: Moderately toxic by inhalation.

EYE CONTACT: Eye contact causes severe corrosion and may cause blindness.

SKIN CONTACT: Severe skin irritant, causes redness and edema.

INGESTION: Human systemic effects by ingestion may include changes in structure or function of esophagus, nausea or vomiting, and other gastrointestinal effects.

Conditions Generally Aggravated by Exposure: There are no known medical conditions which are recognized as being aggravated by exposure.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove victim to fresh air. If coughing, breathing becomes labored, irritation develops or other symptoms develop, seek medical attention at once, even if symptoms develop several hours after the exposure.

EYE CONTACT: Remove any contact lenses at once. Immediately flush eyes with large quantities of clean water for at least 15 minutes. Ensure adequate flushing by separating eyelids with fingers. If irritation or adverse symptoms develop seek medical attention.

SKIN CONTACT: Immediately flush skin with water for at least 15 minutes while removing contaminated clothing. Wash contaminated clothing before reuse or discard the contaminated clothing. If irritation or adverse symptoms develop, seek medical attention.

INGESTION: Do **NOT** induce vomiting. Drink plenty of water. Immediately call physician. For aid to physician, suggest local Poison Control Center.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): >140°F (>60°C) Setaflash Closed Cup

Flammable limits: LEL: Unknown UEL: Unknown

Extinguishing Media: Water from a safe distance – preferably with a fog nozzle. In case of very small fires, other means such as carbon dioxide, foam or dry chemical extinguishers may be effective. Dry chemical combined with Methyl Ethyl Ketone Peroxide formulations may re-ignite. Light water additives may be particularly effective at extinguishing Methyl Ethyl Ketone Peroxide fires.

Special Firefighting Procedures: Firefighters should be equipped with protective clothing and self-contained breathing apparatus. In case of fire near storage area, cool the containers with water spray. If dry chemical is used to extinguish a Methyl Ethyl Ketone Peroxide fire, the extinguished area must be thoroughly wetted down with water to prevent re-ignition.

Unusual Fire and Explosion Hazards: The heat of decomposition of the peroxides adds to the heat of the fire. Dry chemical fire extinguishing agent may catalyze the decomposition.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Dike spill to prevent runoff from entering drains, sewers, streams, etc. Wet spilled material with water and absorb with an inert absorbent material such as perlite, vermiculite, or sand. Sweep up using non-sparking tools and place in a clean polyethylene drum or a polyethylene pail. DO NOT place into a steel container, lined or unlined, as decomposition may occur. Treat any contaminated cardboard packaging as hazardous waste. Wet container contents with additional water prior to sealing.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: If airborne concentrations are expected to exceed acceptable levels wear a NIOSH/MSHA approved air-purifying respirator with an organic vapor cartridge or canister. When using respirator refer to OSHA's 29CFR 1910.134.

Ventilation: Mechanical; general.

Protective Gloves: Protective gloves recommended, solvent resistant, such as butyl rubber, nitrile or neoprene

Eye Protection: Safety goggles recommended. Permanent eyewash is highly recommended.

Other Protective Clothing or Equipment: Safety shower and eye wash fountain is recommended when the risk of a significant exposure exists.

Work / Hygienic Practices: Wash thoroughly after use.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Rotate stock using oldest material first. Avoid contact with skin, eyes and clothing. Keep containers closed to prevent contamination. Keep away from sources of heat, sparks, or flame. Do not add to hot solvents or monomers as a violent decomposition and/or reaction may result. When using spray equipment, never spray raw Methyl Ethyl Ketone Peroxide onto curing or into raw resin or flues. Keep Methyl Ethyl Ketone Peroxide in its original container. Do not use near food or drink. Wash thoroughly after handling. The stability of Methyl Ethyl Ketone Peroxide formulations is directly related to the shipping and storage temperature history. Cool storage at 80°F or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100°F and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion. Store out of direct sunlight in a well ventilated area away from combustible and incompatible materials.

Other Precautions: Unmixed, uncontaminated material, remaining at the end of the day, shall be returned to a proper organic peroxide storage area. Under no circumstances should material be returned to original container.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	Unknown
Vapor Pressure (mmHg):	Unknown
Vapor Density (Air = 1):	>1
Specific Gravity (H₂O = 1):	1.1
Melting Point:	Not available
Evaporation Rate (BuAc = 1):	>1
% Volatile By Volume:	Unknown
Solubility in Water:	Insoluble

Appearance and Odor: Clear liquid with slight ketone odor.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: Stable when kept in original closed container, out of direct sunlight at temperatures below 80°F (27°C).

Conditions to Avoid: Contamination. Prolonged storage above 100°F (38°C). Storage above SADT. (SADT: >140°F / 60°C). Storage near flammable or combustible materials.

Incompatibility (Materials to Avoid): Dimethylaniline, cobalt naphthenate materials. And other promoters, promoted resins, accelerators, oxidizing and reducing agents, strong acids, bases, metals, metal alloys and salts, sulfur compounds, amines or any hot material.

Hazardous Decomposition or By-products: Decomposition products are flammable. Acrid smoke and irritating fumes.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Dimethyl Phthalate

OSHA PEL:	5.0 mg/m ³ (TWA)
ACGIH TLV:	5.0 mg/m ³ (TWA)
OTHER:	INHALATION (CAT): LC ₁₀ 9300 mg/m ³ 6.5 hr. ORAL (RAT/MOUSE): LD ₅₀ 6800 mg/kg

Methyl Ethyl Ketone Peroxide

OSHA PEL: 1.5 mg/m³ (STEL)
ACGIH TLV: 1.5 mg/m³ (STEL)
OTHER: INHALATION (RAT): LC₅₀ 200 ppm/4 hr.
ORAL (RAT): LD₅₀ 484 mg/kg
SKIN (RABBIT): LD₅₀ 500 mg

Dimethyl Glutarate

No data available

Dipropylene Glycol

OSHA PEL: Not listed
ACGIH TLV: Not listed
OTHER: ORAL (RAT): LD₅₀ 14.8 g/kg
SKIN (RABBIT): LD₅₀ >5 g/kg

Hydrogen Peroxide

OSHA PEL: 1.0 ppm (TWA)
ACGIH TLV: 1.0 ppm (TWA)
OTHER: INHALATION (MOUSE): LC₁₀ 227 ppm
ORAL (RAT): LD₅₀ 376 mg/kg
SKIN (RAT): LD₅₀ 4060 mg/kg

Methyl Ethyl Ketone

OSHA PEL: 200 ppm (TWA)
ACGIH TLV: 200 ppm (TWA)
OTHER: 300 ppm (STEL)
INHALATION (RAT): LC₅₀ 23500 mg/m³ 8 hr.
ORAL (RAT): LD₅₀ 2737 mg/kg
SKIN (RABBIT): LD₅₀ 3480 mg/kg

Dimethyl Adipate

OTHER: INTRAPERITONEAL (RAT): LD₅₀ 1809 mg/kg

SECTION 12: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Prevent material from entering drains, sewers, streams, etc. Immediately dispose of waste material at a RCRA approved hazardous waste management facility in accordance with federal, state and local regulations.

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Organic Peroxide Type D, Liquid (Methyl Ethyl Ketone Peroxide, $\leq 45\%$)	5.2	II	3105

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
131-11-3	Dimethyl Phthalate	40.0-42.0
78-93-3	Methyl Ethyl Ketone	1.0-2.0

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.