TED PELLA, INC.
Microscopy Products for Science and Industry

Material Safety Data Sheet
Product No. 16039 M-Bond 610 Curing Agent, Kit Component:
Issue Date (10-21-05)
Review Date (04-12-12)

Section 1: Product and Company Identification

Product Name: M-Bond 610 Curing Agent
Manufacture/Vendor: Vishay Micro-Measurements, Raleigh, NC 27611
Synonym: None
Company Name
Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477
Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m3	ACGIH TLV mg/m3	NTP	IARC	OSHA regulated
Tetrahydrofuran (109-99-9)	88.25	200 ppm	200 ppm	No	No	No
1,2,4,5-Benzenetetracarboxylic Dianhydride (89-32-7)	8.8	NE	NE	No	No	No
1,2,4,5-Benzenetetracarboxylic Acid (89-05-4)	2.95	NE	NE	No	No	No

Note: 1,2,4,5-Benzenetetracarboxylic Acid (89-05-4): 0.25 mg/m3 Respirable Dust per manufacturer

Section 3: Hazard Identification

Emergency overview
Appearance: Colorless to amber liquid
Immediate effects: May cause severe irritation or burns. May cause vomiting, nausea, dizziness, narcosis, respiratory failure, low blood pressure, central nervous system depression, coughing and difficult breathing and/or loss of consciousness.
Potential health effects
Primary Routes of entry: Inhalation; accidental skin contact and ingestion.
Signs and Symptoms of Overexposure: Acute over-exposure may induce narcosis and/or loss of consciousness. May be a skin sensitizer to some individuals.
Eyes: May cause severe irritation or burns, tearing, and redness.
Skin: May cause severe irritation or burns, defatting, and dermatitis.

Ingestion: May cause headache, nausea, vomiting, dizziness and gastrointestinal irritation.
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.
Chronic Exposure: Chronic over-exposure may include kidney and/or liver damage.
Chemical Listed As Carcinogen Or Potential Carcinogen: None listed
See Toxicological Information (Section11)

Potential environmental effects

See Ecological Information (Section 12)

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) 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.
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.
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.

Note to physician

Treatment: ND
Medical Conditions generally Aggravated by Exposure: Skin disorders, respiratory system disease.

Section 5: Fire Fighting Measures

Flash Point: 6 °F (-14 °C) Methods: PMCC
Flammable Limits: LEL: 1.8. UEL: 11.8
Auto-ignition point: ND
Fire Extinguishing Media: Alcohol foam, dry chemical, carbon dioxide. Water may be ineffective.
Special Fire Fighting 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.
Hazardous combustion products: Oxides of carbon, explosive peroxides.
DOT Class: Flammable Liquids, n.o.s.

Section 6: Accidental Release Measures

Steps to be Taken in Case 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.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage
Precautions to be Taken in Handling and Storage: Store in a dry, well ventilated, flammable liquid area. Keep containers tightly sealed. Avoid prolonged exposure to vapors and skin contact.
Storage temperature: Below 80 °F (27 °C)
Storage Pressure: ND

Section 8: Exposure Controls / Personal Protection
Engineering Controls
Ventilation required: Local and general mechanical exhausts are required to keep concentrations below TLV.
Personal Protection Equipment
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.
Protective gloves: Neoprene gloves are recommended.
Skin protection: Impervious over-clothing as needed.
Eye protection: Chemical splash goggles are recommended.
Additional clothing and/or equipment: Safety shower and eye wash station in local area.
Exposure Guidelines
See Composition/Information on Ingredients (Section2)

Section 9 Physical and Chemical Properties
Appearance and Physical State: Colorless to amber liquid
Odor (threshold): Ether-like
Specific Gravity (H_2O=1): 0.9
Vapor Pressure (mm Hg): 145 @ 59 °F (15 °C)
Vapor Density (air=1): 2.5
Percent Volatile by volume: 705 g/liter

Evaporation Rate (butyl acetate=1): 14.5
Boiling Point: 151 °F (66 °C)
Freezing point / melting point: NA
pH: ND
Solubility in Water: Complete
Molecular Weight: ND

Section 10: Stability and Reactivity
Stability: Stable
Conditions to Avoid: Heat, sources of ignition.
Materials to Avoid (Incompatibility): Strong oxidizing agents, acids, bases, alcohol, and water.

Hazardous Decomposition Products: Oxides of carbon, explosive peroxides.
Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information
Results of component toxicity test performed: Tetrahydrofuran (109-99-9): IPR Rat LD50: 2900 mg/kg. INHAL Rat): LD50: 78 g/m^3. 1,2,4,5-Benzenetetracarboxylic Anhydride (89-32-7): Oral, MUS LD50: 2400 mg/kg.
Human experience: ND
This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information
Ecological Information: ND
Chemical Fate Information: ND

Section 13 Disposal Considerations
RCRA 40 CFR 261 Classification: Tetrahydrofuran (109-99-9): U213.
Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information
US DOT Information: Proper shipping name: Flammable Liquids, n.o.s. (Tetrahydrofuran)
Hazard Class: 3
Packaging group: II
UN Number: UN1993
Limitations: ND
Note: When ship as Kit the Proper shipping name: Chemical Kits, UN3316, Class 9, Packing Group II
IATA: Proper shipping name: Flammable Liquids, n.o.s. (Tetrahydrofuran)
Hazard Class: 3
Packing group: II
UN Number: UN1993
Limitations: ND
Note: When shipped as Kit the Proper shipping name: Chemical Kits, UN3316, Class 9, Packing Group II
Domestic shipments only: NA
IMO: Proper shipping name: Flammable Liquids, n.o.s. (Tetrahydrofuran)
Class: 3
UN Number: UN1993
Packing group: II
EMS: ND
MFAG: ND
Marine Pollutant: No
Canadian TDG: ND
IMDG Page: ND

Limitations: ND

Section 15: Regulatory Information
United States Federal Regulations
MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.
SARA: ND
SARA Title III: Section 313: None listed.
RCRA: Tetrahydrofuran (109-99-9): U-series.
TSCA: All components of this product are listed in the Toxic Substance Control Act Chemical Substance Inventory (TSCA).
CERCLA: Tetrahydrofuran (109-99-9): RQ = 1000 lbs (454 kg).
State Regulations
California Proposition 65: Not listed.
International Regulations
Canada WHMIS: This product contains materials listed on the CPR Inventory List.
Europe EINECS Numbers: Tetrahydrofuran (109-99-9): EINECS#: 203-726-8. 1,2,4,5-Benzenetetracarboxylic Dianhydride (89-32-7): EINECS#: 201-898-9. 1,2,4,5-Benzenetetracarboxylic Acid (89-05-4): EINECS#: 201-879-5.

Section 16: Other Information
Label Information: ND
European Risk and Safety Phrases: ND
European symbols needed: ND
Canadian WHMIS Symbols: ND
HMIS® Hazard Rating: Health: **3**; Flammability: **3**; Reactivity: **3**
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)
Abbreviations used in this document
NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

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