



Material Safety Data Sheet

Product No. 16039 M-Bond 610 Adhesive, Kit Component

Issue Date (10-21-05)

Review Date (04-12-12)

Section 1: Product and Company Identification

Product Name: M-Bond 610 Adhesive

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)	58.0 – 64.4	200 ppm	200 ppm	No	No	No
Epoxy Novolac (28064-14-4)	26.7 – 30.3	NE	NE	No	No	No
Methyl Ethyl Ketone (78-93-3)	5.3 – 8.9	200 ppm	200 ppm	200 ppm	No	No

Section 3: Hazard Identification

Emergency overview

Appearance: Colorless liquid

Immediate effects: May cause severe irritations or burns.

Potential health effects

Primary Routes of entry: Inhalation, eyes, skin and accidental ingestion.

Signs and Symptoms of Overexposure:

Eyes: May cause severe irritation or burns. May cause pain on contact. Vapors may irritate eyes.

Skin: May cause severe irritation or burns. Absorption into the skin may cause dermatitis. May rarely cause an allergic skin reaction.

Ingestion: May cause headache, nausea, vomiting, dizziness, gastrointestinal irritation.

Inhalation: May cause respiratory irritation and central nervous system depression.

Chronic Exposure: Chronic over-exposure may result in kidney and/or liver damage. Repeated contact may cause drying or flaking of skin. Excessive exposure to solvents may cause respiratory irritation and central nervous system depression. Signs and symptoms of central nervous system depression, in order of increasing exposure, are headache, dizziness, drowsiness, and incoordination. Signs and symptoms of excessive exposure may be nausea and/or vomiting

Chemical Listed As Carcinogen Or Potential Carcinogen: Not listed in NTP, IARC, or OSHA.

See Toxicological Information (Section 11)

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 plenty of water for at least 15 minutes while holding eyelids open.

Skin Contact: In case of contact, flush skin with water while removing contaminated clothing. Wash affected area with soap and water. Wash contaminated clothing before reuse.

Inhalation: If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Call a physician. If swallowed, do NOT induce vomiting unless directed to do so by a physician. If conscious, give large amounts of water.

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) Method: PMCC

Flammable Limits: LEL: 1.8 UEL: 11.8

Auto-ignition point: 610 °F (320 °C)

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 with full face piece operated in the positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Unusual Fire and Explosion Hazards: Vapors may flow along surfaces to distant ignition source and flash back. Closed containers exposed to heat may explode. Contact with strong oxidizers may cause fire. May form explosive peroxides, especially when heated.

Hazardous combustion products: Carbon monoxide, carbon dioxide explosive peroxides, phenolics.

DOT Class: Flammable Liquids

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Keep unnecessary people away; isolate hazard area. Wear self-contained breathing apparatus and full protective clothing. Shut off ignition sources; no flares, smoking or flames in area. Stop leak if you can do so without risk. Keep out of storm drains, surface waters and soil. Use water spray to reduce vapors. Take up with sand or other non-combustible absorbent material and place into container for later disposal. Flush 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: Keep containers tightly closed. Store in a cool, dry, well ventilated, flammable liquid storage area. Take precautionary measures against static discharges. Keep away from open flames and spark producing equipment. Keep product out of light. Bond and ground containers when transferring liquid. Use caution when opening cap. Avoid prolonged exposure to vapors and skin contact. Avoid breathing vapors.

Storage temperature: ND

Storage Pressure: ND

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Use only with adequate ventilation. A local and general mechanical exhaust is required to keep below TLV.

Personal Protection Equipment

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

Protective gloves: Impervious gloves; neoprene gloves recommended.

Skin protection: Impervious over-clothing as needed.

Eye protection: Chemical splash goggles 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 liquid.

Odor (threshold): Ether-like odor

Specific Gravity (H₂O=1): 0.9

Vapor Pressure (mm Hg): 129 @ 68 °F (20 °C)

Vapor Density (air=1): 2.4

Percent Volatile by volume: 712 g/liter

Evaporation Rate (butyl acetate=1): 8.0

Boiling Point: 150 °F (66 °C)

Freezing point / melting point: NA
pH: ND
Solubility in Water: Appreciable (more than 50%)
Molecular Weight: ND

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Heat, flame, other sources of ignition, light and air. Avoid subjecting resin to temperatures above 90°F/32°C due to presence of volatile methyl ethyl ketone.

Materials to Avoid (Incompatibility): Acids, strong oxidizing agents, strong bases, strong reducing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide explosive peroxides, phenolics.

Hazardous Polymerization: Will not occur by itself, but masses of more than one pound of product plus an aliphatic amine will cause irreversible polymerization with considerable heat buildup.

Section 11: Toxicological Information

Results of component toxicity test performed: Tetrahydrofuran (109-99-9): (IPR, Rat): LD50 = 2900 mg/kg. (INHAL, Rat): LC50 = 78 g/m³. Epoxy Novolac (28064-14-4): (Skin, Rabbit): LD50 = >2000 mg/kg. (Oral, Rabbit): LD50 = >4000 mg/kg. Methyl Ethyl Ketone (78-93-3): (Oral, Rat): LD50 = 2737 mg/kg. (IPR, Mouse): LD50 = 616 mg/kg. (Skin, Rabbit): LD50 = 13 g/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: Do not dump into any sewers, on the ground, or into any body of water. Waste characterizations and compliance with applicable laws are the responsibility of the waste generator.

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/Ethyl Methyl Ketone) (Methyl Ethyl Ketone)

Hazard Class: 3

Packaging group: II

UN Number: UN1993

Note: When ship as Kit the Proper shipping name: Chemical Kits, UN3316, Class 9, Packing Group II
Limitations: ND
IATA: Proper shipping name: Flammable Liquids, n.o.s. (Tetrahydrofuran/Ethyl Methyl Ketone) (Methyl Ethyl Ketone)
Hazard Class: 3
Packing group: II
UN Number: UN1993
Note: When ship as Kit the Proper shipping name: Chemical Kits, UN3316, Class 9, Packing Group II
Limitations: ND
Domestic shipments only:
IMO: Proper shipping name: Flammable Liquids, n.o.s. (Tetrahydrofuran/Ethyl Methyl Ketone) (Methyl Ethyl Ketone)
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: Yes

SARA Title III: This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372: Methyl Ethyl Ketone (78-93-3) 5.3 – 8.9 % by weight.

RCRA: Tetrahydrofuran (109-99-9) (I): U213. Methyl ethyl ketone (MEK)(78-93-3): U159 (I, T)

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). Methyl ethyl ketone (MEK) (78-93-3): RQ = 5000 lbs (2270 kg).

State Regulations

California Proposition 65: No materials 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. Methyl ethyl ketone (MEK) (78-93-3): EINECS#: 201-159-0.

Section 16: Other Information

Label Information: ND

European Risk and Safety Phrases: ND

European symbols needed: ND

Canadian WHMIS Symbols: ND

Hazard Rating: Health: **NE**; Fire: **NE**; Reactivity: **NE**
(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

I = Ignitable Waste

T = Toxic Constituents

Disclaimer

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.