

Safety Data Sheet

Product No. 16039 M-Bond 610 Curing Agent, Kit Component

Issue Date (03-23-15)

Review Date (06-26-15)

Section 1: Product and Company Identification

Product Name: M-Bond 610 Curing Agent, Kit Component

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: Hazard Identification

GHS Pictograms:



GHS Classification: Flam. Liq. 2; H225
 Acute Tox. 4; H302
 Skin Sens. 1; H317
 Eye Dam. 1; H318
 Resp. Sens. 1; H334
 STOT SE 3; H335
 Carc. 2; H351

Signal Word: DANGER

Contains: Tetrahydrofuran and 1,2,4,5-Benzenetetracarboxylic Dianhydride

Hazard Statements:

H225: Highly flammable liquid and vapor.

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335: May cause respiratory irritation.

H351: Suspected of causing cancer.

Precautionary Statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P201: Obtain special instructions before use.

P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor/

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER/doctor.

Additional Information:

EUH019: May form explosive peroxides.

Health Effects:

NFPA Hazard Rating: Health: ND; Fire: ND; Reactivity: ND

HMIS® Hazard Rating: Health: 3; Fire: 3; Reactivity: 3

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Results of PBT and vPvB assessment: Not classified as PBT or vPvB

PBT: Not classified.

vPvB: Not classified.

Emergency overview:

Appearance: Colorless to amber-colored liquid.

Immediate effects: ND

Potential health effects

Primary Routes of entry: Inhalation, skin contact, ingestion.

Signs and Symptoms of Overexposure:

Eyes: Causes serious eye damage.

Skin: May cause an allergic skin reaction.

Ingestion: Harmful if swallowed.

Inhalation: May cause respiratory irritation. May cause allergy or asthma symptoms, or breathing difficulties.

Chronic Exposure: Chronic over-exposure may include kidney and/or liver damage.

Acute over-exposure may induce narcosis and/or loss of consciousness.

Sensitization: May be a skin sensitizer to some individuals.

Chemical Listed As Carcinogen or Potential Carcinogen: Yes

Carcinogenicity: NTP: Not listed

IARC Monographs: Not listed

OSHA Regulated: Regulated

See Toxicological Information (Section 11)

Potential environmental effects

See Ecological Information (Section 12)

Section 3: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m ³	ACGIH TLV mg/m ³	NTP Carcinogen	IARC Carcinogen	OSHA regulated Carcinogen
Tetrahydrofuran (109-99-9) EC-No: 203-726-8 Flam. Liq. 2; H225 Acute Tox. 4; H302 Eye Irrit. 2; H319 STOT SE 3; H335 Carc. 2; H351 EUH019	85-90	TWA 200 ppm STEL 250 ppm TWA 590 mg/m ³ STEL 735 mg/m ³	NE	No	No	Yes
1,2,4,5-Benzenetetracarboxylic Dianhydride (89-32-7) EC-No: 201-898-9 Skin Sens. 1; H317 Eye Dam. 1; H318 Resp. Sens. 1; H334	5-10	NE	NE	No	No	No
1,2,4,5-Benzenetetracarboxylic Acid (89-05-4) EC-No: 201-879-5 Eye Irrit. 2; H319	1-3	NE	NE	No	No	No

H225: Highly flammable liquid and vapor. H302: Harmful if swallowed. H317: May cause an allergic skin reaction. H318: Causes serious eye damage. H319: Causes serious eye irritation. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335: May cause respiratory irritation. H351: Suspected of causing cancer. EUH019: May form explosive peroxides.

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Obtain prompt consultation, preferably from an ophthalmologist.

Skin Contact: Immediately flush thoroughly while removing contaminated clothing. If irritation develops (redness, rash, blistering), get medical attention. Chemical eye burns may require extended irrigation.

Inhalation: Remove person to fresh air and keep comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If experiencing

respiratory symptoms: Call a POISON CENTER/doctor. If exposed or concerned: Get medical advice/attention.

Ingestion: If swallowed wash out mouth with water provided person is conscious.

Continue to give large quantities of water. Do NOT induce vomiting unless directed to do so by medical personnel. Get medical attention.

Note to physician

Treatment: ND

Medical Conditions generally Aggravated by Exposure: Pre-existing skin or eye problems, impaired liver or kidney function.

Section 5: Fire Fighting Measures

Flash Point: 6°F (-14°C) [open cup]

Flammable Limits: LEL, 1.8 / UEL, 11.8

Auto-ignition point: ND

Fire Extinguishing Media: Dry chemical, foam, carbon dioxide. Water spray may be used to cool fire exposed containers.

Special Fire Fighting Procedures: Firefighters should wear proper protective equipment and self-contained breathing apparatus operated in positive pressure mode. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

Unusual Fire and Explosion Hazards: Highly flammable liquid and vapor. May decompose in a fire giving off toxic fumes: carbon monoxide, carbon dioxide and explosive peroxides. Vapors are heavier than air and may travel considerable distances to a source of ignition and flashback. The vapor is heavier than air; beware of pits and confined spaces.

Hazardous combustion products: ND

DOT Class: Flammable liquid

Section 6: Accidental Release Measures

Steps to be taken in Case Material is Released or Spilled:

Personal precautions, protective equipment and emergency procedures: Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use personal protective equipment as required. See Section: 8. Avoid breathing vapors.

Environmental precautions: Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up: Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. This material and its container must be disposed of as hazardous waste.

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: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid all contact. Do not breathe vapor. Ensure adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

Conditions for safe storage, including any incompatibilities: Ground/bond container and receiving equipment. Keep only in original container. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. Vapor space above stored liquid may be flammable/explosive unless blanketed with inert gas. Storage temperature: Ambient. Store below 80°F (27°C) in a dry, well ventilated, flammable liquid area away from light, heat and oxidizers.

Other Precautions: Keep containers tightly sealed when not in use. Avoid prolonged exposure to vapors and skin contact.

Storage Pressure: ND

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Ensure adequate ventilation. Use appropriate containment.

Atmospheric levels should be controlled in compliance with the occupational exposure limit. Guarantee that the eye flushing systems and safety showers are located close to the working place.

Individual protection measures, such as personal protective equipment: General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Do not breathe vapor. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place.

Personal Protection Equipment

Respiratory protection: In case of inadequate ventilation wear respiratory protection.

Open system(s): Wear suitable respiratory protective equipment.

Protective gloves: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Skin protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye protection: Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Additional clothing and/or equipment: Safety shower and eye wash station in local area.

Exposure Guidelines

See Composition/Information on Ingredients (Section 3)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Colorless to amber-colored liquid.

Odor: ether-like

Specific Gravity (H₂O=1): 0.9

Vapor Pressure (mm Hg): 145 @ 59°F (15°C)
Vapor Density (air=1): 2.5
Volatile Organic Compounds: 705 g/liter
Evaporation Rate (butyl acetate=1): >1
Boiling Point: 151°F (66°C)
Freezing point / melting point: NA
pH: NE
Solubility in Water: Soluble
Molecular Weight: ND

Section 10: Stability and Reactivity

Stability: Stable under normal conditions of use and storage.

Conditions to Avoid: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources.

Materials to Avoid (Incompatibility): Mild steel, strong oxidizing agents and acids.

Hazardous Decomposition Products: carbon monoxide, carbon dioxide, and explosive peroxides.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed:

Tetrahydrofuran	LD50 Oral (Rat) 3000 mg/kg
1,2,4,5-Benzenetetracarboxylic Anhydride	LD50 ORAL (MUS) 2400 mg/kg
1,2,4,5-Benzenetetracarboxylic Acid	0.25 mg/m ³ Respirable Dust per manufacturer

Acute toxicity: Ingestion: Acute Tox. 4: Harmful if swallowed.

Acute Toxicity Estimate Mixture Calculation: Estimated LC50 567 mg/kg bw/day.

Inhalation: The classification criteria are not met.

Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.

Skin Contact: The classification criteria are not met.

Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.

Skin corrosion/irritation: The classification criteria are not met.

Serious eye damage/irritation: Eye Dam. 1: Causes serious eye damage.

Respiratory or skin sensitization: Skin Sens. 1: May cause an allergic skin reaction.

Resp. Sens. 1: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity: The classification criteria are not met.

Carcinogenicity: Carc. 2: Suspected of causing cancer.

Reproductive toxicity: The classification criteria are not met.

STOT - single exposure: STOT SE 3: May cause respiratory irritation.

STOT - repeated exposure: The classification criteria are not met.

Aspiration hazard: The classification criteria are not met.

Human experience: ND

This product **does** contain a compound listed by NTP or IARC or regulated by OSHA as a carcinogen: Tetrahydrofuran (109-99-9)

Section 12: Ecological Information

Ecological Information:

Toxicity: The classification criteria are not met.

Persistence and degradability: This product is readily biodegradable in water.

Bio accumulative potential: The product has low potential for bioaccumulation.

Estimated Mixture LC50 >100 mg/l (Fish)

Mobility in soil: The product is predicted to have high mobility in soil. (Water Soluble)

Results of PBT and vPvB assessment: Not classified as PBT or vPvB.

Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: Tetrahydrofuran (109-99-9): U213. This material and its container must be disposed of as hazardous waste. Send after pre-treatment to appropriate hazardous waste incinerator facility.

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: Tetrahydrofuran

Hazard Class: 3

Packaging group: II

UN Number: UN2056

Note: When shipped as Kit the Proper shipping name: Chemical Kits, UN3316, Class 9, Packing Group II

IATA: Proper shipping name: Tetrahydrofuran

Hazard Class: 3

Packing group: II

UN Number: UN2056

Note: When shipped as Kit the Proper shipping name: Chemical Kits, UN3316, Class 9, Packing Group II

Marine Pollutant: No

Canadian TDG: Tetrahydrofuran

Note: When shipped as Kit the Proper shipping name: Chemical Kits, UN3316, Class 9,

Section 15: Regulatory Information

United States Federal Regulations

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.

SARA: Not listed.

SARA Title III: Not listed.

RCRA: Tetrahydrofuran (109-99-9): U213.

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: Substance 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: Flammable
European Risk and Safety Phrases: ND
European symbols needed: ND
Canadian WHMIS Symbols: ND

Abbreviations used in this document

NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

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