

Jodan Technology, Inc.

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Data Sheet**JT-7100; JT-7110****UL Listed Elastomeric-Like Screen Coatable Protective Layer For Flexible and Rigid-Flex Circuitry****Key Attributes**

- Cures in seconds by UV radiation @ 365 nm in under 1 Joule
- Passes UL 94 VTM-O rating when coated on 2 mil FR-4
- Base polymer itself is self-extinguishing
- Single component - 100% non-volatiles
- All epoxide-based elastomeric formulation
- Superior adhesion to a variety of substrates including glass, fiberglass, treated copper, polyester and Kapton®
- Excellent tensile strength
- Excellent tear resistance
- Low stress
- Screen-coatable
- Degasses easily after screening
- Strippable

Physical Properties

- Elongation.....~100%
- Tensile Strength.....~1000 psi
- T_g..... 27 °C
- Viscosity (22 °C).....12,000 cps
(50 °C).....1,520 cps
- Shore D.....-47

Comments

Patent pending

No silicones, acrylates or polyurethanes present

No solvents in formulation

Sample coated on rigid-flex and tested on 125 to 250 mil mandrels results in superior cycles to failure
e.g. Dieckmura Double-Treated 1 oz copper, 250 mil mandrel; > 550 cycles to failure

Can bend back on itself without cracking

Cleans-up easily with alcohol or common organic solvents

Colored blue for easy visualization (JT-7100); Uncolored (JT-7110)

Physical properties are typical data and do not represent specifications

Packaging Availability

2 lb, 10 lb containers

The information contained on this data sheet is believed to be reliable. Jodan Technology Inc., makes no warranties, either expressed or implied as to its accuracy and assumes no liability in connection with the use of this product. Purchaser acknowledges by receipt of this information that the purchaser must determine the suitability of this product for use on a specific application.

MSDS Information

JT-7130

CAS#: UV Curable Epoxide Mixture

October 1997

SECTION I - GENERAL

Manufacturer's Name: Jodan Technology, Inc.
Telephone Number: (914) 245-0194
Emergency Telephone Number: 800 670-1757
Address: 1500 Front Street, Yorktown Heights, NY 10598
Tradename:
Chemical Name & Synonyms: Epoxy mixture
Chemical Family: Epoxy resin -
Formula: N/A
DOT Hazardous Materials Proper Shipping Name: Not Regulated
DOT Hazard Class: Not hazardous by DOT regulations

SECTION II - SUMMARY OF HAZARDS

HMIS: Health 2, Flammability: 1, Reactivity 2, Other - none
Physical Hazards: May self-polymerize
Acute Health Effects: (short term) Acute Oral: ND (rat)
ND (mouse)
Acute Dermal: LD50 ND g/Kg
Acute Inhalation: LD50 ND
Chronic Health Effects: (long term) Some individuals may have or may develop skin sensitivity to this material

This product is **not** listed under:

National Toxicology Program (NTP). Annual Report on Carcinogens. International Agency for Research on Cancer (IARC). Monographs. and 29 CFR 1910. Subpart Z. Toxic and Hazardous Substances, Occupational and Health Administration (OSHA). Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment, and American Conference of Governmental Industrial Hygienists (ACGIH).

REGULATORY INFORMATION:

TSCA: All ingredients of this product appear on the TSCA Inventory.

SARA TITLE III - SECTION 313: This product does not contain a toxic chemical in excess of 1% of the mixture (1% if a listed carcinogen).

SECTION III - PHYSICAL AND CHEMICAL DATA

Boiling Point (°F):	N/A
Vapor Pressure:	Low
Vapor Density:	N/A
Solubility in Water:	Negligible
Appearance and Odor:	Viscous liquid; Mild odor
Specific Gravity (H ₂ O):	ND
Percent Volatile by Volume:	0.2 - 0.7
Evaporation Rate:	Very low
Freezing Point:	ND
Conditions to Avoid:	Degradation occurs due to long heating at high temperatures.
Materials to Avoid:	Strong and weak bases; Strong acids
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide, and phenolics may be released during a fire.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point:	>480°F (250°C) (PMCC)
Extinguishing Media:	Foam, CO ₂ , or dry chemical
Special Fire Fighting Procedures:	Wear positive pressure self-contained breathing apparatus
Unusual Fire & Explosion Hazards:	None

SECTION V - REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	Keep away from heat, avoid long exposure above 250°F
Incompatibility:	Incompatible with amines and many reactive materials
Hazardous Decomposition Products:	None under normal conditions
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 VI - ENVIRONMENTAL AND DISPOSAL INFORMATION

Action to Take for Spills & Leaks:	Soak up in absorbent material such as sand and collect in suitable containers. Residual resin may be removed using steam or hot soapy water. Use of solvents in cleanup poses a distinct hazard and, therefore, should be avoided. Keep spark-producing equipment away. For large spills, evacuate upwind of spill and contain with dike.
Disposal Method:	Burn in adequate incinerator in accordance with local, state, and Federal regulations.

ND - Not Determined

SECTION VII - HEALTH HAZARD DATA

Summary of Acute Hazards: Slight health hazards - see below for route-specific details.

ROUTE OF EXPOSURE SIGNS AND SYMPTOMS

Inhalation: Vapors may irritate the nose, throat and respiratory tract. No other data known to exist

Eye Contact: May cause significant eye irritation.

Skin Contact: May produce skin irritation; Product may be slightly toxic.

Ingestion: No data available

Summary of Chronic Hazards: No data available

Special Health Effects: No additional medical information found

SECTION VIII - EMERGENCY AND FIRST AID

Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use

Eye Contact: In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persists.

Skin Contact: May cause allergenic skin reaction in susceptible individuals. Prolonged exposure may cause skin irritation. Wash skin thoroughly with mild soap/water. Flush with lukewarm water for 15 minutes. Wipe off resin with dry or oily rag. Repeated exposure may cause skin irritation

Ingestion: No data available

Emergency Medical Treatment Procedures: After adequate first aid, no further treatment is necessary unless symptoms reappear. Treat symptomatically

SECTION IX - SPILL AND DISPOSAL

Precautions if Material is Spilled or Released: Stop release. Prevent flow to sewers/public waters. Restrict water use for cleanup. Slippery walking/spread granular cover. Impound/recover large land spill. Soak up small spill with inert solids. Use suitable disposal containers. On water, material may float or sink, may biodegrade. Disperse residue to reduce aquatic harm. Report per Reg. Requirements.

Waste Disposal Methods: Use registered transporters. Burn in adequate incinerator. Assure emissions comply with applicable regulations. Follow all applicable Federal, state and local regulations when disposing waste.

SECTION X - PROTECTIVE EQUIPMENT AND OTHER CONTROL MEASURES

Respiratory: No special respiratory protection equipment is recommended under anticipated conditions of normal use with adequate ventilation.

Eye: Eye protection such as chemical splash goggles must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor. Contact lenses should not be worn.

Skin: Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. This equipment should be cleaned thoroughly after each use.

Engineering Controls: No special ventilation is recommended under anticipated conditions of normal use beyond that needed for normal comfort control.

Other Hygienic & Work Practices: Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water. No special work practices are needed beyond the above-recommended actions under anticipated conditions of normal use.

SECTION XI - OCCUPATIONAL EXPOSURE LIMITS

Ingestion: Single dose oral toxicity is low. No additional data available.

Inhalation: Not available.

Systemic & Other Effects: Except for skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects. No specific data available.

SECTION XII - COMPONENTS

	<u>CAS #</u>	<u>Amount</u>
Epoxide mixture (aliphatic/Bis-A)		20 - 80
Polyol mixture		10 - 60
Photoinitiator (potential	89452-37-9, 68156-13-8, 74227-35-3	< 5
components of mixture)	71449-78-0, 139301-16-9, 108-32-7	
Amorphous fumed silica	112945-52-5	< 5

SECTION XIII -Miscellaneous

One of the trace components of this formulation has been found to be positive when tested in the Ames mutagenicity assay. May contain traces of epichlorohydrin (CAS #: 106-89-8) which according to the state of California (state code CA65C) is known to cause cancer.

DISCLAIMER OF LIABILITY

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