MATERIAL SAFETY DATA SHEET

Date Issued: 08/31/2011
MSDS No: TC-1614 PART A

TC-1614 PART A

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TC-1614 PART A
GENERAL USE: Epoxy resin
CHEMICAL FAMILY: Phenol novolac diglycidyl ether resin with diluants

MANUFACTURER
BJB Enterprises, Inc.
14791 Franklin Avenue
Tustin, CA 92780
Customer Service Number: (714) 734-8450
Fax: (714) 734-8929

24 HR. EMERGENCY TELEPHONE NUMBERS
CHEMTREC (US Transportation): (800) 424-9300
or (703) 527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE AND ODOR: Clear colorless liquid with a slight solvent odor.

IMMEDIATE CONCERNS: Combustible. Material can release vapors that readily form flammable mixtures. vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge. Keep away from heat and sources of ignition. Avoid eye and skin contact. Avoid breathing vapors. May cause eye and skin irritation. Use in well ventilated areas.

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation, tearing, reddening, and swelling.

SKIN: May cause irritation and possible allergic sensitivity with repeated contact.

INGESTION: May be harmful if swallowed.

INHALATION: May be harmful if inhaled. Inhalation at levels above the occupational exposure limit could cause respiratory sensitization and risk of damage to the respiratory system.

MEDICAL CONDITIONS AGGRAVATED: Prior sensitization to epoxide containing products.

ROUTES OF ENTRY: Eye and skin contact, inhalation of vapors, or accidental ingestion.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS
Epoxy phenol novolac resin	75 - 85	28064-14-4
Glycidyl ether, Aliphatic, Modifier	5 - 10	14228-73-0
Xylene	8.037	1330-20-7
Ethylbenzene	2.679	100-41-4
Toluene	< 0.08	108-88-3

4. FIRST AID MEASURES

EYES: Immediately rinse with water. Remove contact lenses. Hold eyelids apart and flush eyes with water for at least 15 minutes. Get immediate medical attention.

SKIN: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

INGESTION: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

NOTES TO PHYSICIAN: Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 41°C (106°F) Pensky-Martens CC

EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical, or foam.

EXPLOSION HAZARDS: Temperatures at or above the flash point could generate combustible mixtures. Avoid all ignition sources. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING PROCEDURES: Cool fire exposed containers with water spray. Remove containers from the fire area if possible. Do not release runoff from fire control methods to sewers or waterways.

FIRE FIGHTING EQUIPMENT: Firefighters should wear positive pressure self-contained breathing apparatus (SCBA) and consider use of unmanned hose holders or monitor nozzles for fighting large fires.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, aldehydes, and phenolics.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Eliminate sources of ignition. Evacuate the area. Clean-up should only be performed by trained personnel. People dealing with a major spill should wear full protective clothing including appropriate respiratory protection. Prevent product spill from entering sewers or waterways. Neutralize small spills with a decontaminant.

LARGE SPILL: Contain and absorb large spills onto an inert, non-flammable adsorbent carrier (earth or sand). Do not use combustible materials such as saw dust. Use only spark resistant and explosion proof recovery devices. Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spill area clean with a liquid decontaminant. Remove and properly dispose of residues. Notify applicable government authorities if release is reportable. (See CERCLA in Section 15).

RELEASE NOTES: US regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Combustible liquid. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Avoid breathing vapor over open containers. Avoid open container exposure to damp air. Avoid breathing aerosols, mists, and vapors.

HANDLING: Use in a well ventilated area. Avoid heat, sparks, and open flames. Avoid breathing dust. Avoid breathing vapor and contact with eyes, skin, and clothing. To reduce potential for static discharge, bond and ground containers when transferring material. Hazardous residue may remain in emptied container. Do not reuse empty containers without commercial cleaning or reconditioning. Use appropriate personal protective equipment as specified in Section 8. Handle and use in a manner consistent with good industrial/manufacturing techniques and practices.

STORAGE: Store in a cool, well ventilated, dry place, away from excessive heat in the original or similar container. Avoid sources of ignition and incompatible materials. Keep containers tightly sealed. Avoid unnecessary contact.

SHELF LIFE: 12 months from date of shipment under manufacturers recommended storage conditions.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		SupplierOEL	
Chemical Name		**ppm**	**mg/m³**	**ppm**	**mg/m³**	**ppm**	**mg/m³**
Epoxy phenol novolac resin	**TWA**	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
Glycidyl ether, Aliphatic, Modifier	**TWA**	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
Xylene	**TWA**	100	435	100	434	NE	NE
	STEL	NE	NE	150	651	NE	NE
Ethylbenzene	**TWA**	100	435	100	434	100 [1]	435 [1]
	STEL	NE	NE	125	543	125 [1]	545 [1]
Toluene	**TWA**	200	NE	50	188	100 [1]	375 [1]
	STEL	300	NE	NE	NE	150 [1]	560 [1]
OSHA TABLE COMMENTS: **1**. NIOSH REL							

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Safety goggles or glasses are recommended. Plastic face shields should be used for complete face protection to protect against possible splashing or spraying of material. ANSI Z87.1 or approved equivalent.

SKIN: Chemical-resistant gloves and chemical goggles, face-shield, and synthetic apron or coveralls should be used to prevent contact with eyes, skin, or clothing. Wear nitrile or neoprene gloves. Chemical resistant gloves lined with polyethylene offer maximum protection.

RESPIRATORY: Exhaust ventilation recommended. An organic vapor cartridge or fresh air supplied respirator (NIOSH approved) may be necessary for certain applications. Consider the type of application, environmental concentrations, and other materials being used concurrently when determining respirator use and selection. Observe OSHA regulations for respirator use (29 CFR 1910.134).

PROTECTIVE CLOTHING: Protective clothing should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing' published by ACGIH.

WORK HYGIENIC PRACTICES: Contaminated clothing should be changed and washed before reuse. Eating, drinking and smoking in immediate work area should be prohibited. Wash hands before eating.

OTHER USE PRECAUTIONS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Training is important. Follow all label precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Slight solvent

APPEARANCE: Clear

COLOR: Colorless

pH: Not Applicable

PERCENT VOLATILE: 10

VAPOR PRESSURE: < 10 mmHg at 20°C (68°F)

VAPOR DENSITY: Not Established

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BOILING POINT: > 149°C (300°F)

FLASHPOINT AND METHOD: 41°C (106°F) Pensky-Martens CC

SOLUBILITY IN WATER: Negligible

SPECIFIC GRAVITY: 1.130 (water=1) at 25°C (77°F)

VISCOSITY: 550 Centipoise at 25°C (77°F)

VOC (Volatile Organic Compound): 113.000 g/l Calculated. Theoretical VOC minus water and exempt solvents.

10. STABILITY AND REACTIVITY

STABILITY: This product is stable under normal ambient conditions of temperature and pressure.

POLYMERIZATION: Product will not undergo polymerization.

CONDITIONS TO AVOID: High temperatures and sources of ignition.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, aldehydes, and phenolics.

INCOMPATIBLE MATERIALS: Strong acids, bases, oxidizing agents, and amines.

11. TOXICOLOGICAL INFORMATION

TOXICITY TO ANIMALS

Chemical Name	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)	INHALATION LC_{50} (rat)
Epoxy phenol novolac resin	4000 mg/kg	Not Established	Not Established
Glycidyl ether, Aliphatic, Modifier	2450 mg/kg	2500 mg/kg	Not Established
Xylene	4300 mg/kg	14100 uL/kg	4550 ppm (4 h)
Ethylbenzene	3500 mg/kg	17800 uL/kg	Not Established
Toluene	636 mg/kg	2 to 14 g/kg	26700 ppm (1h)

CARCINOGENICITY

Chemical Name	IARC Status
Ethylbenzene	2B
Toluene	3

IARC: This product contains substances that are classified as possible carcinogens to humans.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No specific ecological data are available for this product. Refer to Section 6 for information regarding accidental release and Section 15 for regulatory reporting information.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: The generation of waste should be avoided or minimized wherever possible. Disposal should be in accordance with local, state, provincial or national regulations.

EMPTY CONTAINER: Containers must be emptied (as defined by RCRA, 40 CFR Section 261.7 or state regulations that may be more stringent) and either passed to an approved recycler or destroyed.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION) LAND

NOTE: Not Regulated

AIR (ICAO/IATA)

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SHIPPING NAME: Flammable liquid, n.o.s.

TECHNICAL NAME: (xylene solution)

UN/NA NUMBER: UN 1993

PRIMARY HAZARD CLASS/DIVISION: 3

PACKING GROUP: III

LABEL: Flammable liquid

VESSEL (IMO/IMDG)

SHIPPING NAME: Flammable liquid, n.o.s.

TECHNICAL NAME: (xylene solution)

UN/NA NUMBER: UN 1993

PRIMARY HAZARD CLASS/DIVISION: 3

PACKING GROUP: III

LIMITED QUANTITY: 5L

LABEL: Flammable liquid

SPECIAL PROVISIONS: EmS: F-E, S-E

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Acute health hazard. Chronic health hazard

313 REPORTABLE INGREDIENTS: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt.%	CAS
Xylene	8.037	1330-20-7
Ethylbenzene	2.679	100-41-4

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: For this/these chemicals, release of more than the Reportable Quantity to the environment in a 24-hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675):

Chemical Name	Wt.%	CERCLA RQ
Xylene	8.037	100 lbs.
Ethylbenzene	2.679	1,000
Toluene	< 0.08	1,000 lbs.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: This product or its components are listed in or exempt from the TSCA inventory requirements.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

29 CFR1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: None of the chemicals in this product are considered highly hazardous by OSHA.

REGULATIONS

STATE REGULATIONS: California Proposition 65: This product contains chemical(s) which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

CALIFORNIA PROPOSITION 65

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Chemical Name	Wt. %	Listed
Ethylbenzene	2.679	Cancer
Toluene	< 0.08	• Cancer • Developmental Toxicity

OSHA HAZARD COMM. RULE: The contents of the MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS CLASS: B2, D2A, D2B

DOMESTIC SUBSTANCE LIST (INVENTORY): All components in this product are included on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL).

16. OTHER INFORMATION

REASON FOR ISSUE: Revised format

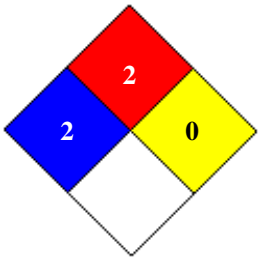
APPROVED BY: Michael Rose **TITLE:** R & D Manager

PREPARED BY: Gus Alidad

HMIS RATING

HEALTH	*	2
FLAMMABILITY		2
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X

NFPA CODES



HMIS RATINGS NOTES: Personal Protection: See Section 8

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