

MATERIAL SAFETY DATA SHEET



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

TC-1614 PART B

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TC-1614 PART B
GENERAL USE: Epoxy curing agent
CHEMICAL FAMILY: Aliphatic, cycloaliphatic amine mixture

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: Amber liquid with an ammoniacal odor.

IMMEDIATE CONCERNS: Corrosive. Avoid eye and skin contact. Avoid breathing vapors. Keep away from heat and sources of ignition. Moderate to severe respiratory irritant. Harmful if swallowed. Severe eye and skin irritant. Use in well-ventilated areas. Decomposition and combustion products are toxic.

POTENTIAL HEALTH EFFECTS

EYES: Extremely irritating to the eyes and may cause severe damage including blindness.

SKIN: Causes skin burns, irritation and possible allergic reaction.

INGESTION: Harmful if swallowed. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

INHALATION: Highly toxic by inhalation. Risk of serious damage to the lungs. Harmful if inhaled and may cause delayed lung injury. Inhalation of aerosol may cause irritation to the upper respiratory tract.

CHRONIC TOXICITY

CHRONIC EFFECTS: Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.

MEDICAL CONDITIONS AGGRAVATED: Asthma, chronic respiratory disease, skin and eye conditions.

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS
Cycloaliphatic amine mixture	30 - 50	Proprietary
Diethyltoluenediamine (DETDA)	15 - 25	68479-98-1
Tetraethylenepentamine	10 - 15	112-57-2
Formaldehyde, Polymer with Benzeneamine, Hydrogenated	5 - 10	135108-88-2
2-Ethyl-4-methylimidazole	5 - 10	931-36-2
Diethylenetriamine (DETA)	1 - 5	111-40-0
4,4'-Isopropylidenediphenol	1 - 5	80-05-7

TC-1614 PART B**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: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Thoroughly wash or discard clothing and shoes before reuse.

INGESTION: Aspiration hazard. If swallowed, vomiting may occur spontaneously, but **DO NOT INDUCE**. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate 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: 107.2°C (225°F) TAG CC

EXTINGUISHING MEDIA: Alcohol resistant foam, carbon dioxide, dry chemical, dry sand, or limestone powder.

HAZARDOUS COMBUSTION PRODUCTS: May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.

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, nitric acid, ammonia, and nitrogen oxides.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: 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 (such as earth or sand). 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: 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 appropriate personal protective equipment as specified in Section 8. Handle in a well ventilated area. Handle and use in a manner consistent with good industrial/manufacturing techniques and practices.

STORAGE: Store in a cool, dry place, away from excessive heat, in original or similar container. Avoid unnecessary contact. Protect from freezing. Containers should be tightly sealed to prevent contamination with foreign materials.

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/m ³	ppm	mg/m ³	ppm	mg/m ³
Cycloaliphatic amine mixture	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
Diethyltoluenediamine (DETDA)	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
Tetraethylenepentamine	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
Formaldehyde, Polymer with Benzeneamine, Hydrogenated	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
2-Ethyl-4-methylimidazole	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
Diethylenetriamine (DETA)	TWA	NE	NE	1	4	1 ^[1]	4 ^[1]
	STEL	NE	NE	NE	NE	NE	NE
4,4'-Isopropylidenediphenol	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
OSHA TABLE COMMENTS:							
1. NIOSH REL (skin)							

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: Ammoniacal

COLOR: Amber

pH: Alkaline

TC-1614 PART B**PERCENT VOLATILE:** 0.10**VAPOR PRESSURE:** Not Established**VAPOR DENSITY:** Heavier than air**BOILING POINT:** > 100°C (212°F)**FLASHPOINT AND METHOD:** 107.2°C (225°F) TAG CC**SOLUBILITY IN WATER:** Partially Soluble**SPECIFIC GRAVITY:** 0.980 (water=1) at 25°C (77°F)**VISCOSITY:** 250 Centipoise at 25°C (77°F)**VOC (Volatile Organic Compound):** < 1.000 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, moisture, and freezing conditions.**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide, nitric acid, ammonia, and nitrogen oxides.**INCOMPATIBLE MATERIALS:** Sodium hypochlorite, organic acids, mineral acids, peroxides, oxidizing agents, nitrous acid and other nitrosating agents.**11. TOXICOLOGICAL INFORMATION****TOXICITY TO ANIMALS**

Chemical Name	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)	INHALATION LC ₅₀ (rat)
Cycloaliphatic amine mixture	Not Established	Not Established	Not Established
Diethyltoluenediamine (DETDA)	> 500 mg/kg	Not Established	Not Established
Tetraethylenepentamine	2140 mg/kg	> 660 mg/kg	Not Established
Formaldehyde, Polymer with Benzeneamine, Hydrogenated	Not Established	Not Established	Not Established
2-Ethyl-4-methylimidazole	1000 mg/kg	> 400 mg/kg	Not Established
Diethylenetriamine (DETA)	Not Established	Not Established	0.07 to 0.3 mg/l
4,4'-Isopropylidenediphenol	> 2000 mg/kg	> 2000 mg/kg	Not Established

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****PROPER SHIPPING NAME:** Corrosive liquid, n.o.s.**TECHNICAL NAME:** (tetraethylenepentamine solution)**PRIMARY HAZARD CLASS/DIVISION:** 8**UN/NA NUMBER:** UN 1760**PACKING GROUP:** III

TC-1614 PART B**ERG CODE:** 154**LABEL:** Corrosive**AIR (ICAO/IATA)****SHIPPING NAME:** Corrosive liquid, n.o.s.**TECHNICAL NAME:** (tetraethylenepentamine solution)**UN/NA NUMBER:** UN 1760**PRIMARY HAZARD CLASS/DIVISION:** 8**PACKING GROUP:** III**LABEL:** Corrosive**VESSEL (IMO/IMDG)****SHIPPING NAME:** Corrosive liquid, n.o.s.**TECHNICAL NAME:** (tetraethylenepentamine solution)**UN/NA NUMBER:** UN 1760**PRIMARY HAZARD CLASS/DIVISION:** 8**PACKING GROUP:** III**LIMITED QUANTITY:** 5L**EmS:** F-A, S-B**LABEL:** Corrosive**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
4,4'-Isopropylidenediphenol	1 - 5	80-05-7

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):
None**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.**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):
None**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:** D2B, E**DOMESTIC SUBSTANCE LIST (INVENTORY):** All components in this product are included on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL).

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16. OTHER INFORMATION

REASON FOR ISSUE: Revised format

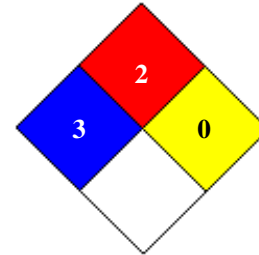
APPROVED BY: Michael Rose **TITLE:** R & D Manager

PREPARED BY: Gus Alidad

HMIS RATING

HEALTH	*	3
FLAMMABILITY		2
PHYSICAL HAZARD		0
PERSONAL PROTECTION	X	

NFPA CODES



HMIS RATINGS NOTES: Personal Protection: See Section 8

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