

SAFETY DATA SHEET



Date Issued : 03/18/2014
 SDS No : TC-1604 PART B
 Date Revised : 10/08/2018
 Revision No : 2

TC-1604 PART B

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TC-1604 PART B

GENERAL USE: Epoxy curing agent

MANUFACTURER

BJB Enterprises, Inc.
 14791 Franklin Avenue
 Tustin, CA 92780
Emergency Phone: (714) 734-8450

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC (USA & Canada): (800) 424-9300
 or (703) 527-3887 CCN# 2820

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATIONS**Health:**

Acute Toxicity (Oral), Category 4
 Acute Toxicity (Dermal), Category 4
 Skin Corrosion, Category 1
 Serious Eye Damage, Category 1
 Skin Sensitization, Category 1
 Reproductive Toxicity, Category 2
 Target Organ Toxicity (Repeated exposure), Category 1

Environmental:

Chronic Hazards to the Aquatic Environment, Category 2

GHS LABEL

Corrosion



Health hazard

Exclamation
mark

Environment

SIGNAL WORD: DANGER**HAZARD STATEMENTS**

H302 + H312: Harmful if swallowed or in contact with skin.
 H314: Causes severe skin burns and eye damage.
 H317: May cause an allergic skin reaction.
 H361: Suspected of damaging fertility or the unborn child.
 H372: Causes damage to organs through prolonged or repeated exposure.
 H411: Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS**Prevention:**

P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 P264: Wash thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P272: Contaminated work clothing should not be allowed out of the workplace.

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P280: Wear protective gloves/protective clothing/eye protection/face protection.

P273: Avoid release to the environment.

Response:

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P363: Wash contaminated clothing before reuse.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310: Immediately call a POISON CENTER/doctor/physician.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P391: Collect spillage.

Storage:

P405: Store locked up.

Disposal:

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS
Tetraethylenepentamine	30 - 60	112-57-2
Triethanolamine	10 - 30	102-71-6
Amines, polyethylenepoly-	3 - 7	68131-73-7
Triethylenetetramine	3 - 7	112-24-3
1-(2-Aminoethyl)piperazine	3 - 7	140-31-8
Diethylenetriamine (DETA)	0.1 - 1	111-40-0
Diethanolamine	< 0.1	111-42-2

4. FIRST AID MEASURES

EYES: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing 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 immediately. Wash clothing before reuse.

INGESTION: If swallowed, call a physician immediately. Do NOT induce vomiting. Provided the patient is conscious, wash out mouth with water. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get 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

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

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, nitrogen oxides, and ammonia.

FIRE FIGHTING PROCEDURES: 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.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Evacuate unnecessary personnel from the spill area. Eliminate all sources of ignition. Ensure adequate

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ventilation. Use personal protective equipment. Dike and contain spill. Prevent product from entering drains or waterways. Absorb with non-combustible material (such as sand, earth, diatomaceous earth, or vermiculite) and transfer to a container for disposal according to local/national regulations.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Do not discharge into drains, surface waters, or groundwater.

GENERAL PROCEDURES: Refer to section 8 of SDS for personal protection details.

RELEASE NOTES: Composition and extent of any spill should be evaluated against local regulations and reported to the proper agencies, if necessary.

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 dry and well-ventilated 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.

STORAGE TEMPERATURE: 65-80°F (18-27°C)

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)				
Chemical Name	Type	EXPOSURE LIMITS		
			ppm	mg/m ³
Tetraethylenepentamine	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
Triethanolamine	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	5
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
Amines, polyethylenepoly-	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
	OSHA PEL	TWA	-	-
		STEL	-	-

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Triethylenetetramine	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
1-(2-Aminoethyl)piperazine	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
Diethylenetriamine (DETA)	OSHA PEL	TWA	1	4
		STEL	-	-
	ACGIH TLV	TWA	1	-
		STEL	-	-
	NIOSH REL	TWA	1 ^[1]	4 ^[1]
		STEL	-	-
Diethanolamine	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	3	15
		STEL	-	-

Footnotes:

1. 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

TC-1604 PART B**ODOR:** Slight**COLOR:** Amber**pH:** 10.9 to 11.8**PERCENT VOLATILE:** Nil**FLASH POINT AND METHOD:** > 100°C (212°F) Closed Cup**VAPOR PRESSURE:** No data available**VAPOR DENSITY:** No data available**BOILING POINT:** No data available**SOLUBILITY IN WATER:** No data available**SPECIFIC GRAVITY:** 1.02 (water=1) at 25°C (77°F)**VISCOSITY #1:** 210 Centipoise at 25°C (77°F)**(VOC):** Nil**10. STABILITY AND REACTIVITY****REACTIVITY:** Hazardous reactions will not occur under normal transport or storage conditions.**STABILITY:** This product is stable under normal ambient conditions of temperature and pressure.**CONDITIONS TO AVOID:** High temperatures and freezing conditions.**POSSIBILITY OF HAZARDOUS REACTIONS:** No data available**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide, nitrogen oxides, and ammonia.**INCOMPATIBLE MATERIALS:** No data available**11. TOXICOLOGICAL INFORMATION****ACUTE TOXICITY**

Chemical Name	ORAL LD ₅₀	DERMAL LD ₅₀	INHALATION LC ₅₀
Tetraethylenepentamine	1716.2 mg/kg Rat	1260 mg/kg Rabbit	No data available
Triethanolamine	6400 mg/kg Rat	> 2000 mg/kg Rabbit	No data available
Amines, polyethylenepoly-	No data available	No data available	No data available
Triethylenetetramine	2500 mg/kg Rat	550 mg/kg Rabbit	No data available
1-(2-Aminoethyl)piperazine	2097 mg/kg Rat	866 mg/kg Rabbit	No data available
Diethylenetriamine (DETA)	1080 mg/kg Rat	1090 mg/kg Rabbit	0.3 mg/l Rat (4 h)
Diethanolamine	1600 mg/kg Rat	12200 mg/kg Rabbit	No data available

SKIN CORROSION/IRRITATION: Causes severe skin burns.**SERIOUS EYE DAMAGE/IRRITATION:** Causes serious eye damage.**RESPIRATORY OR SKIN SENSITISATION:** May cause sensitization by skin contact.**GERM CELL MUTAGENICITY:** No data available**CARCINOGENICITY**

Chemical Name	IARC Status
Triethanolamine	3
Diethanolamine	2B

REPRODUCTIVE TOXICITY: Suspected of damaging fertility or the unborn child.**STOT-SINGLE EXPOSURE:** No data available**STOT-REPEATED EXPOSURE:** Causes damage to organs through prolonged or repeated exposure.**ASPIRATION HAZARD:** No data available

TC-1604 PART B**12. ECOLOGICAL INFORMATION**

ENVIRONMENTAL DATA: This product may cause risk of hazardous effects to the environment.

ECOTOXICOLOGICAL INFORMATION: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Avoid release to the environment.

BIOACCUMULATION/ACCUMULATION: No data available

DISTRIBUTION: No data available

CHEMICAL FATE INFORMATION: No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protections and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION**DOT (DEPARTMENT OF TRANSPORTATION)**

PROPER SHIPPING NAME: Corrosive liquids, n.o.s.

TECHNICAL NAME: (tetraethylenepentamine solution)

PRIMARY HAZARD CLASS/DIVISION: 8

UN/NA NUMBER: UN1760

PACKING GROUP: III

NAERG: 154

LABEL: Corrosive

ROAD AND RAIL (ADR/RID)

PROPER SHIPPING NAME: Corrosive liquid, n.o.s. (tetraethylenepentamine solution)

UN NUMBER: UN1760

HAZARD CLASS: 8

PACKING GROUP: III

LABEL: Corrosive

AIR (ICAO/IATA)

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

TECHNICAL NAME: (tetraethylenepentamine solution)

UN/NA NUMBER: UN1760

PRIMARY HAZARD CLASS/DIVISION: 8

PACKING GROUP: III

ERG: 8L

LABEL: Corrosive

VESSEL (IMO/IMDG)

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

TECHNICAL NAME: (tetraethylenepentamine solution)

UN/NA NUMBER: UN1760

PRIMARY HAZARD CLASS/DIVISION: 8

PACKING GROUP: III

EmS: F-A, S-B

MARINE POLLUTANT #1: Yes

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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, Fire Hazard**313 REPORTABLE INGREDIENTS:** This product does not contain any 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.**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT)****CERCLA REGULATORY:** This product contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

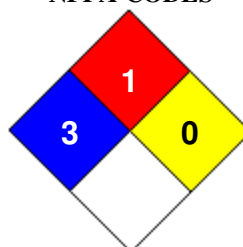
Chemical Name	Wt. %	CERCLA RQ
Diethanolamine	< 0.1	100

TSCA (TOXIC SUBSTANCE CONTROL ACT)**TSCA REGULATORY:** This product does not contain any substances subject to TSCA Section 12(b) export notification.**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: ⚠ WARNING:** This product can expose you to chemicals including [see table below], which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

Chemical Name	Wt. %	Listed
Diethanolamine	< 0.1	Cancer

OSHA HAZARD COMM. RULE: The contents of the SDS 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 SDS contains all the information required by the CPR.**DOMESTIC SUBSTANCE LIST (INVENTORY):** All components in this product are listed in or exempted from the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL).**GENERAL COMMENTS:** No data available**16. OTHER INFORMATION****REASON FOR ISSUE:** Revision**Date Revised:** 10/08/2018**REVISION SUMMARY:** This SDS replaces the 06/07/2017 SDS.**HMIS RATING**

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X

NFPA CODES**HMIS RATINGS NOTES:** Personal Protection: See Section 8**MANUFACTURER DISCLAIMER:** This information is furnished without warranty, expressed or implied, except that is accurate to the best knowledge of BJB Enterprises, Inc. The data on this sheet relates only to the specific material designated herein. BJB Enterprises, Inc. assumes no legal responsibility for use or reliance upon this data.