

# SAFETY DATA SHEET



Date Prepared : 04/08/2015  
SDS No : TC-1607 PART B

## TC-1607 PART B

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** TC-1607 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 3  
Acute Toxicity (Inhalation), Category 3  
Skin Corrosion, Category 1  
Serious Eye Damage, Category 1  
Skin Sensitization, Category 1  
Reproductive Toxicity, Category 2  
Target Organ Toxicity (Repeated exposure), Category 2

##### Environmental:

Chronic Hazards to the Aquatic Environment, Category 2

#### GHS LABEL



Skull and crossbones



Health hazard



Corrosion



Environment

**SIGNAL WORD:** DANGER

#### HAZARD STATEMENTS

H302: Harmful if swallowed.  
H311: Toxic in contact with skin.  
H331: Toxic if inhaled.  
H314: Causes severe skin burns and eye damage.  
H318: Causes serious eye damage.  
H317: May cause an allergic skin reaction.  
H361: Suspected of damaging fertility or the unborn child .  
H373: May cause damage to organs through prolonged or repeated exposure .  
H411: Toxic to aquatic life with long lasting effects.

#### PRECAUTIONARY STATEMENTS

##### Prevention:

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- 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.  
 P271: Use only outdoors or in a well-ventilated area.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 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.  
 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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P363: Wash contaminated clothing before reuse.  
 P304+P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
 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 or doctor/physician.  
 P391: Collect spillage.

**Storage:**

- P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
 P405: Store locked up.

**Disposal:**

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

**EMERGENCY OVERVIEW**

**PHYSICAL APPEARANCE:** Amber liquid with an ammoniacal odor.

**IMMEDIATE CONCERNS:** Corrosive. Causes eye and skin burns. Causes respiratory tract irritation. May cause allergic skin reaction. May be harmful if absorbed through skin. Contains material that may cause target organ damage, based on animal data. Do not breathe vapor or mist. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

**POTENTIAL HEALTH EFFECTS**

**EYES:** Causes eye burns. May cause blindness. Severe eye irritation.

**SKIN:** Toxic in contact with skin. Causes skin burns severe 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:** Toxic if inhaled. Inhalation of aerosols and vapors may cause irritation to the upper respiratory tract. Can cause severe respiratory tract burns. May cause nose, throat, and lung irritation.

**REPRODUCTIVE TOXICITY**

**REPRODUCTIVE EFFECTS:** This product contains ingredients that are considered to cause reproductive harm.

**CARCINOGENICITY:** This product contains ingredients that are considered to be probable or suspected human carcinogens.

**MEDICAL CONDITIONS AGGRAVATED:** Pre-existing eye, skin, and respiratory conditions may be aggravated by exposure.

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

**TARGET ORGAN STATEMENT:** Contains material which may cause damage to the following organs: skin, eyes, respiratory system, reproductive system, kidney, and liver.

**SENSITIZATION:** May cause allergic skin reaction.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

**TC-1607 PART B**

Chemical Name	Wt.%	CAS
Cyclohexanamine, 4,4'-methylenebis[2-methyl-	30 - 60	6864-37-5
Tetraethylenepentamine	10 - 30	112-57-2
Methylenebis(cyclohexanamine, 4,4'-	7 - 13	1761-71-3
2-Ethyl-4-methylimidazole	5 - 10	931-36-2
Diethylenetriamine (DETA)	3 - 7	111-40-0
4,4'-Isopropylidenediphenol	1 - 5	80-05-7
1h-imidazole, 5-methyl-	0.1 - 1	822-36-6

**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 unless directed to do so by medical personnel. 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.

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

**CHRONIC EFFECTS:** Prolonged contact may result in chemical burns and permanent damage. May cause allergic skin reaction.

**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**

**GENERAL HAZARD:** May generate ammonia gas. May generate nitrogen oxide gases. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning of material produces obnoxious and toxic fumes.

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

**HAZARDOUS COMBUSTION PRODUCTS:** Carbon monoxide, carbon dioxide, nitrogen oxides, nitric acid, ammonia, aldehydes, nitrosamine, and chlorine.

**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.

**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).

**ENVIRONMENTAL PRECAUTIONS**

**WATER SPILL:** Do not discharge into drains or rivers.

**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.

**TC-1607 PART B****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:** Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer causing nitrosamines could be formed. 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)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		Supplier OEL	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Cyclohexanamine, 4,4'-methylenebis[2-methyl-	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
Methylenebis(cyclohexanamine, 4,4'-	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	NE	1 <sup>[1]</sup>	4 <sup>[1]</sup>
	STEL	NE	NE	NE	NE	NE	NE
4,4'-Isopropylidenediphenol	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE
1h-imidazole, 5-methyl-	TWA	NE	NE	NE	NE	NE	NE
	STEL	NE	NE	NE	NE	NE	NE

**Footnotes:**  
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

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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

**FLASH POINT AND METHOD:** 102°C (215°F) Pensky-Martens CC

**VAPOR PRESSURE:** Not Established

**VAPOR DENSITY:** Not Established

**BOILING POINT:** > 100°C (212°F)

**SOLUBILITY IN WATER:** Partially soluble

**SPECIFIC GRAVITY:** 0.98 (water=1) at 25°C (77°F)

**VISCOSITY #1:** 185 Centipoise at 25°C (77°F)

**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:** No data available

**POSSIBILITY OF HAZARDOUS REACTIONS:** Reaction with peroxide may resulting violent decomposition of peroxide possibly creating an explosion. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide, nitrogen oxides, nitric acid, ammonia, aldehydes, nitrosamine, and chlorine.

**INCOMPATIBLE MATERIALS:** Sodium hypochlorite, organic acids, mineral acids, oxidizing agents, and nitrous acid.

**11. TOXICOLOGICAL INFORMATION****ACUTE**

Chemical Name	ORAL LD <sub>50</sub>	DERMAL LD <sub>50</sub>	INHALATION LC <sub>50</sub>
Cyclohexanamine, 4,4'-methylenebis[2-methyl-	> 320 mg/kg	> 200 mg/kg	0.42 mg/l (4 h)
Tetraethylenepentamine	2140 mg/kg	> 660 mg/kg	Not Established
Methylenebis(cyclohexanamine, 4,4'-	625 mg/kg	2110 mg/kg	Not Established
2-Ethyl-4-methylimidazole	1000 mg/kg	> 400 mg/kg	Not Established
Diethylenetriamine (DETA)	Not Established	Not Established	> 0.07 mg/l (4 h)
4,4'-Isopropylidenediphenol	> 2000 mg/kg	> 2000 mg/kg	Not Established
1h-imidazole, 5-methyl-	Not Established	Not Established	Not Established

**CHRONIC:** Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently

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exposed to very low levels.

**CARCINOGENICITY**

Chemical Name	IARC Status
1h-imidazole, 5-methyl-	2B

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

**IRRITATION:** Causes severe eye and skin irritation.

**CORROSIVITY:** Corrosive to the eyes and skin.

**SENSITIZATION:** May cause sensitization by skin contact.

**REPRODUCTIVE EFFECTS:** Suspected of damaging fertility. Suspected of damaging the unborn child.

**TARGET ORGANS:** Contains material which may cause damage to the following organs: skin, eyes, respiratory system, reproductive system, kidney, and liver.

**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, diethylenetriamine 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, diethylenetriamine solution)

**UN NUMBER:** UN170

**HAZARD CLASS:** 8

**PACKING GROUP:** III

**LABEL:** Corrosive

**AIR (ICAO/IATA)**

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

**TECHNICAL NAME:** (tetraethylenepentamine, diethylenetriamine solution)

**TC-1607 PART B****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, diethylenetriamine solution)**UN/NA NUMBER:** UN1760**PRIMARY HAZARD CLASS/DIVISION:** 8**PACKING GROUP:** III**EmS:** F-A, S-B**MARINE POLLUTANT #1:** Yes**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 ENVIRONMENTAL 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 REGULATORY:** This product contains chemical(s) subject to TSCA Section 12(b) export notification:  
None**TSCA STATUS:** This product or its components are listed in or exempt from the TSCA inventory requirements.**OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)****29 CFR 1910.119--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):

Chemical Name	Wt. %	Listed
1h-imidazole, 5-methyl-	0.1 - 1	Cancer

**OSHA HAZARD COMM. RULE:** The contents of the SDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.**CANADA****WHMIS HAZARD SYMBOL AND CLASSIFICATION**

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D2A - Very Toxic



D2B - Toxic



E - Corrosive

**WHMIS CLASSIFICATION**

Class D2A: Poisonous and infectious material (Very toxic).

Class D2B: Poisonous and infectious material (Toxic).

Class E: Corrosive material

**WHMIS HEALTH EFFECTS CRITERIA**

D2A - Reproductive toxicity

D2B - Eye irritation

D2B - Skin Sensitization

E - Corrosive to Skin

E - TDG Class 8 - corrosive substance

**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.

**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**

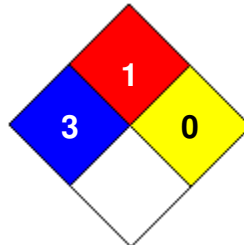
**REASON FOR ISSUE:** Revised format

**Date Prepared:** 04/08/2015

**HMIS RATING**

<b>HEALTH</b>	*	<b>3</b>
<b>FLAMMABILITY</b>		<b>1</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>
<b>PERSONAL PROTECTION</b>	<b>X</b>	

**NFPA CODES**



**HMIS RATINGS NOTES:** Personal Protection: See Section 8

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