Material Safety Data Sheet

TC-1604 PART B

Date of Preparation: 07/11/2003 Revision: 07/11/2003

Section 1 - Chemical Product and Company Identification

Product Name: TC-1604 PART B
Product Class: Epoxy hardener
Chemical Type: Alkyl, cycloalkyl amines, mixture
Manufacturer: BJB Enterprises, Inc., 14791 Franklin Avenue, Tustin, CA 92780, Phone (714) 734-8450, Fax (714) 734-8929, (M-Th: 8-4:30, F: 7:30-4), Emergency Phone: Chemtrec (800) 424-9300 or (703) 527-3887

Section 2 - Composition / Information on Ingredients

Ingredient Name	CASRN	% wt
1. Tetraethylenepentamine (TEPA)	112-57-2	70-75
2. Triethanolamine	102-71-6	15-25
3. Piperazine	110-85-0	<10
4. N-Aminoethylpiperazine	140-31-8	<5
5. Triethylenetetramine (TETA)	112-24-3	3 ± 2

Trace Impurities: N/A

	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
Ingredient	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
#1	NE	NE	NE	NE	NE	NE	NE
#2	NE	NE	5mg/m^3	NE	NE	NE	NE
#3	NE	NE	NE	NE	NE	NE	NE
#4	NE	NE	NE	NE	NE	NE	NE
#5	NE	NE	NE	NE	NE	NE	NE

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Appearance: Clear, amber liquid; Odor: amine odor; Avoid skin contact. Avoid breathing vapors. May cause eye and skin irritation. Harmful if inhaled. Use in well-ventilated areas. Burning material will generate trace amounts of toxic fumes/gases.

HMIS	
H	3
F	1
R	0
PPE†	

†Sec. 8

Potential Health Effects

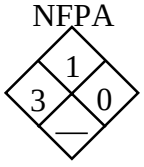
Primary Entry Routes: Eye and skin contact; inhalation of vapors, accidental ingestion.
Acute Effects
Inhalation/Ingestion: Irritation, burning sensation; lung damage in high concentrations. Moderately toxic.
Eye: Severe eye irritant.
Skin: Severe skin irritant
Medical Conditions Aggravated by Long-Term Exposure: May aggravate pre-existing asthma.

Section 4 - First Aid Measures

Inhalation: Not likely. Remove to fresh air environment.
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.
Eye Contact: Flush eyes with clean, lukewarm water for 15 minutes. Obtain medical attention if irritation develops.
Skin Contact: Remove contaminated clothing and wash affected areas well with soap and water. Launder contaminated clothing before use.
Note to Physicians: Treat any ill effects symptomatically.

Section 5 - Fire-Fighting Measures

Flash Point/Method: 195°F (91°C) PMCC
Autoignition Temperature: 573°F (300°C) in air.
Hazardous Classification: Class 8, PG III
Extinguishing Media: Water spray, dry chemical extinguisher, foam, or carbon dioxide.
Hazardous Combustion Products: Potential toxic combustion products: ammonia, carbon monoxide, aldehydes



Section 5 - Fire-Fighting Measures (cont'd)

Fire-Fighting Instructions: Cool fire exposed containers with water spray. Remove containers from 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.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: Provide adequate ventilation and wear personal protective equipment. Evacuate personnel as a precaution. Prevent product spill from entering sewers, streams, or drinking water supplies. Collect liquid or soak up with inert filler or an absorbent, such as dry earth, sand, or oil absorbent (sweeping) compound. Collect material into suitable containers for disposal. Wash area with dilute ammonia solution.

Containment: For large spills, dike ahead of liquid spill for later neutralization, absorption, clean up, and disposal.

Section 7 - Handling and Storage

Handling Precautions: Avoid contact with eyes, skin and clothing. Avoid breathing vapor over open container.

Storage Requirements: Store in a cool, dry place away from excessive heat in original or similar waterproof containers. Avoid unnecessary contact. Protect from freezing. Containers should be tightly sealed to prevent contamination with foreign materials. Flush contaminated area with water.

Shelf life: 12 months from date of shipment under manufacturers recommended storage conditions.

Section 8 - Exposure Controls / Personal Protection

Eye Protection Requirements: Safety goggles or glasses are recommended. Plastic face shield should be worn for complete face protection.

Skin Protection Requirements: Impermeable gloves should be worn. Employees should wash their hands and face before eating, drinking, or using tobacco products.

Ventilation/Respiratory Requirements: Exhaust ventilation recommended. An organic vapor cartridge or fresh air supplied respirator (NIOSH certified) 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).

Additional Protective Measures: Safety showers and eye wash stations should be easily accessible to the work area. Training is important. Follow all label precautions.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance and Odor: Clear, amber; Amine odor
Vapor Pressure: <1.0 mm Hg at 69°F (21°C)
Specific Gravity (H_2O=1): 1.02
pH: N/A

Water Solubility: Soluble
Boiling Point: >250°F (121°C) @ 760 mm Hg
% Volatile: Negligible
V.O.C. (ref EPA meth 24): Not determined

Section 10 - Stability and Reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities/Conditions to Avoid: Acids, epoxides, oxidizing agents, nitrites, and organohalogens.

Hazardous Decomposition: Thermal oxidative decomposition can produce toxic fumes of ammonia, carbon monoxide, and aldehydes.

Section 11- Toxicological Information

No Toxicological Information Available

Section 12 - Ecological Information

No Ecological Information Available

Section 13 - Disposal Considerations

Waste Disposal Method: Incinerate in compliance with federal, state, or local environmental control regulations.

Section 14 - Transport Information

Shipping Name: Corrosive liquid n.o.s.
Technical Shipping Name:
Tetraethylenepentamine solution
Hazard Class: 8
ID No.: UN1760
Packing Group: III
Label: Corrosive

DOT (USA): Regulated
Class 8, PG III
IATA/ICAO: Regulated
Class 8, PGIII
IMO/IMDG: Regulated
Class 8, PG III

Section 15 - Regulatory Information

U.S. Federal Regulations:
OSHA:
This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard.

SARA TITLE III:
Sections 311/312 Hazard Classification: None
Section 313: This product contains the following substances subject to the reporting requirements of EPCRA, Section 313 and 40 CFR Part 372:
None

TSCA: This product or its components are listed in or exempt from the TSCA inventory requirements.
This product contains the following substances subject to export notification under Section 12 (b) of TSCA:
None

Section 16 - Other Information

Reason for Issue: Revised sections 9 & 15
Prepared By: S.F. Marks
Approval Date: 07/11/2003
Supersedes Date: 08/13/1999

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