SAFETY DATA SHEET

Date issued : 02/24/2015
SDS number : TC-1618 PART B
Date revised : 03/13/2025
Revision number : 3

TC-1618 PART B

1. Identification

Product identifier: TC-1618 PART B
Relevant identified uses: Epoxy curing agent

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

Emergency telephone number (24 hour)
CHEMTREC (USA & Canada): (800) 424-9300
or (703) 527-3887 CCN# 2820

2. Hazard identification

Classification of the substance or mixture

Health hazards:

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
Carcinogenicity, Category 2
Reproductive Toxicity, Category 2
Target Organ Toxicity (Repeated exposure), Category 1

Environmental hazards:

Chronic Hazards to the Aquatic Environment, Category 2

Label elements


Skull and crossbones


Corrosion


Health hazard


Environment

Signal word: DANGER

Hazard statement(s)

H302: Harmful if swallowed.
H311 + H331: Toxic in contact with skin or if inhaled.
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.
H351: Suspected of causing cancer.
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 statement(s)

Prevention:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.

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P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.
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.
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.
P308+P313: IF exposed or concerned: Get medical advice/ attention.
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.

3. Composition/information on ingredients

Chemical name	% w/w	CAS No.
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	15 - 40	6864-37-5
1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-	10 - 30	112-57-2
Cyclohexanamine, 4,4'-methylenebis-	5 - 10	1761-71-3
1-(2-Aminoethyl)piperazine	5 - 10	140-31-8
1H-Imidazole, 2-ethyl-4-methyl-	3 - 7	931-36-2
1,2-Ethanediamine, N-(2-aminoethyl)-	1 - 5	111-40-0
4,4'-Isopropylidenediphenol	1 - 5	80-05-7
Diethylmethylbenzenediamine	1 - 5	68479-98-1
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-	0.5 - 1.5	112-24-3
1H-Imidazole, 4-methyl-	0.1 - 1	822-36-6

4. First-aid measures

Eye: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical advice/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.

Indication of immediate medical attention and special treatment needed, if necessary: Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

5. Fire-fighting measures

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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.

Suitable 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, 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.

Precautions for safe handling: Do not use sodium nitrite or other nitorsating 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.

Conditions for safe 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 controls

Control parameters				
	Occupational exposure limit values			
Chemical name	**Type**		**ppm**	**mg/m³**
1,2-Ethanediamine, N-(2-aminoethyl)-	**OSHA PEL**	**TWA**	1	4
		STEL	-	-
	ACGIH TLV	**TWA**	1	-
		STEL	-	-
	NIOSH REL	**TWA**	1 [1]	4 [1]
		STEL	-	-

Footnotes:
1. Skin

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

Individual protection measures, such as personal protective equipment

Eye / face protection: 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 protection - hand protection: 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 protection: 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).

Skin protection - other: Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.

Occupational hygiene 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

Color: Amber

Odor: Ammoniacal

pH: Alkaline

Initial boiling point and boiling range: No data available

Flash point: 107.2°C (225°F) Closed Cup

Vapor pressure: No data available

Relative vapor density: No data available

Relative density: 0.98 (water=1) at 25°C (77°F)

Solubility: Partially soluble

Dynamic viscosity: 150 Centipoise at 25°C (77°F)

Percent volatiles: Nil

VOC content: Nil

10. Stability and reactivity

Reactivity: Hazardous reactions will not occur under normal transport or storage conditions.

Chemical 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 toxicity

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Chemical name	LD_{50} (oral) mg/kg(rat)	LD_{50} (dermal) mg/kg(rabbit)	LC_{50} (inhalation) mg/l
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	320 to 460 mg/kg Rat	> 200 mg/kg Rabbit	0.42 mg/l Rat (4 h aerosol)
1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-	1716.2 mg/kg Rat	1260 mg/kg Rabbit	No data available
Cyclohexanamine, 4,4'-methylenebis-	625 mg/kg Rat	2110 mg/kg Rabbit	No data available
1-(2-Aminoethyl)piperazine	2097 mg/kg Rat	866 mg/kg Rabbit	No data available
1H-Imidazole, 2-ethyl-4-methyl-	1000 mg/kg Rat	> 400 mg/kg Rabbit	No data available
1,2-Ethanediamine, N-(2-aminoethyl)-	1080 mg/kg Rat	1090 mg/kg Rabbit	0.3 mg/l Rat (4 h aerosol)
4,4'-Isopropylidenediphenol	> 2000 mg/kg Rat	6400 mg/kg Rabbit	170 mg/m3 Rat (6 h)
Diethylmethylbenzenediamine	> 500 mg/kg Rat	> 2000 mg/kg Rat	No data available
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-	2500 mg/kg Rat	550 mg/kg Rabbit	No data available
1H-Imidazole, 4-methyl-	751 mg/kg Rat	No data available	No data available

Skin corrosion / irritation: Causes severe skin burns.

Serious eye damage / irritation: Causes serious eye damage.

Respiratory or skin sensitization: May cause sensitization by skin contact.

Germ cell mutagenicity: No data available

Carcinogenicity

Chemical name	IARC
1H-Imidazole, 4-methyl-	2B

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - single exposure: No data available

Specific Target Organ Toxicity - repeated exposure: Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard: No data available

12. Ecological information

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

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Environmental data: This product may cause risk of hazardous effects to the environment.

Mobility in soil: No data available

13. Disposal considerations

Disposal methods: 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

USA Department of Transport Regulations (DOT)

UN proper shipping name: Corrosive liquids, n.o.s.

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Technical name: (tetraethylenepentamine, diethylenetriamine solution)

UN number: UN1760

Transport hazard class(es): 8

Packing group: II

NAERG: 154

Hazard label: Corrosive

ICAO / IATA - air

UN proper shipping name: Corrosive liquid, n.o.s.

Technical name: (tetraethylenepentamine, diethylenetriamine solution)

UN number: UN1760

Transport hazard class(es): 8

Packing group: II

ERG: 8L

Hazard label: Corrosive

IMO / IMDG - sea

UN proper shipping name: Corrosive liquid, n.o.s.

Technical name: (tetraethylenepentamine, diethylenetriamine solution)

UN number: UN1760

Transport hazard class(es): 8

Packing group: II

EmS: F-A, S-B

Environmental hazards - marine pollutant: Yes

Hazard label: Corrosive

15. Regulatory information

UNITED STATES

SARA Section 311/312 Hazard Categories

311/312 Health hazards: Refer to Section 2 for hazard classification.

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 Toxic Chemicals

Chemical name	% w/w	CAS No.
4,4'-Isopropylidenediphenol	1 - 5	80-05-7

CERCLA Hazardous Substances and Reportable Quantities (RQ)

CERCLA regulatory: This product does not contain any substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

TSCA (The Toxic Substances Control Act)

TSCA regulatory: This product contains Diethylmethylbenzenediamine (CAS No. 68479-98-1) which is subject to TSCA 12(b) export notification (40 CFR part 707, subpart D).

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 [are] known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

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Chemical name	% w/w	Listed
4,4'-Isopropylidenediphenol	1 - 5	• Female Reproductive
1H-Imidazole, 4-methyl-	0.1 - 1	• Cancer

USA OSHA Hazard Communication Standard (29CFR 1910.1200): The contents of the SDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

CANADA

WHMIS Regulatory Status: 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 Substances List (DSL) / Non-Domestic Substances List (NDSL): All components in this product are listed in or exempted from the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL).

16. Other information

Reason for issue: Revision

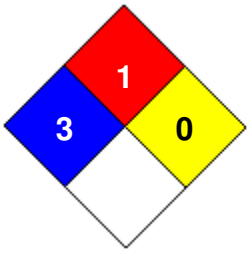
Date revised: 03/13/2025

Revision summary: This SDS replaces the 03/12/2021 SDS.

HMIS rating

Health	*	3
Flammability		1
Physical hazard		0
Personal protection		X

NFPA codes



HMIS ratings notes: Personal Protection: See Section 8

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