

Material Safety Data Sheet

TC-312 PART A

Date of Preparation: 10/26/2005

Revision: 10/26/2005

Section 1 - Chemical Product and Company Identification

Product Name: TC-312 PART A

Product Class: Polyurethane resin

Chemical Type: Aromatic and polymeric isocyanate

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. Polymeric diphenylmethane diisocyanate	9016-87-9	100

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Appearance: Brown liquid; Odor: Slightly musty; May cause eye and skin irritation; Hazardous in case of inhalation; Burning material will generate toxic fumes; Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

HMIS

H 2

F 1

R 1

PPE†

†Sec. 8

Potential Health Effects

Primary Entry Routes: Eye and skin contact; inhalation of vapors, accidental ingestion.

Inhalation: Hazardous in case of inhalation (lung irritant, lung sensitizer). Inhalation at levels above the occupational exposure limits (see Section 8) could cause respiratory sensitization and risk of serious damage to respiratory system. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitized person.

Ingestion: Slightly hazardous in case of ingestion.

Eye: Hazardous in case of eye contact (irritant).

Skin: Hazardous in case of skin contact. (irritant, sensitizer). Skin inflammation is characterized by itching, scaling or reddening.

Medical Conditions Aggravated by Long-Term Exposure: May cause or aggravate dermatitis and asthma.

Section 4 - First Aid Measures

Inhalation: Remove patient from exposure, keep warm and at rest. Obtain immediate medical attention. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be administered by qualified personnel. Apply artificial respiration if breathing has ceased or shows signs of failing.

Ingestion: Do not induce vomiting. Provided the patient is conscious, wash out mouth with water. Obtain immediate medical attention.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin Contact: Remove contaminated clothing and wash affected areas well with soap and water. If symptoms develop, seek medical attention. Wash contaminated clothing before use. An MDI study has demonstrated that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water.

Notes to Physicians: Symptomatic and supportive therapy is needed. Following severe exposure, medical follow-up should be monitored for at least 48 hours.

Section 5 - Fire-Fighting Measures

Flash Point/Method: >200°F (93°C) Closed Cup

Extinguishing Media: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Unusual Fire or Explosion Hazards: Burning material will generate carbon monoxide, carbon dioxide, nitrous oxide and HCN. Slightly flammable to flammable in presence of open flames, sparks and static discharge or combustible materials. Reacts slowly with water to produce carbon dioxide, which may rupture closed containers.

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

For major spills call Chemtrec (800-424-9300)

Small spill and Leak Procedures: Clean up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including appropriate respiratory protection. Evacuate the area. Prevent further leakage, spillage or entry into drains.

Large Spill and Leak Procedures: Contain and absorb large spillage onto an inert, non-flammable absorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Test atmosphere for MDI. Neutralize small spillages with decontaminant. Remove and properly dispose of residues. (See section 13 for disposal considerations.) Notify applicable government authorities if release is reportable. The CERCLA RQ for 4,4-MDI is 5,000 lbs (see CERCLA in Section 15)

Decontaminant: Preparation of Decontamination Solution: Prepare a decontamination solution of 0.2-0.5% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precaution on the supplier's material safety data sheets when preparing and using solution. Use of Decontamination Solution: Allow deactivated material to stand for at least 30 minutes before shoveling into drums. Do not tighten the bungs. Mixing with wet earth is also effective, but slower.

Section 7 - Handling and Storage

Handling Precautions: Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the occupational exposure limit is not exceeded. The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage. Avoid breathing aerosols, mists and vapors. (See Section 8—Exposure Control for details.)

Storage Requirements: Keep containers properly sealed and when stored indoors, in a well ventilated area. Keep contents away from moisture. Due to reaction with water, producing CO₂-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Uncontaminated containers, free of moisture, may be resealed only after placing under a nitrogen blanket. Do not store in containers made of copper, copper alloys or galvanized surfaces. Keep stock of decontaminant (See Section 6) readily available.

Shelf life: 6 months from date of shipment under manufacturers recommended storage conditions.

Ideal Storage Temperature: 60°-100°F (16°-38°C)

Section 8 - Exposure Controls / Personal Protection

Exposure Limits:

4,4'-Diphenylmethane diisocyanate (101-68-8):

ACGIH TLV: 0.05 mg/m³ (8-hour, 40 hours/week)

OSHA PEL Ceiling Limit: 0.2 mg/m³

NIOSH REL/TWA: 0.05 mg/m³ (10-hour, 40 hours/week)

NIOSH REL/CEILING: 0.2 mg/m³ (10-minute)

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 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. Working training is important. Follow all label precautions.

Section 9 - Physical and Chemical Properties

<p>Flash Point/Method: >200°F (93°C) Closed Cup</p> <p>Physical State: Liquid</p> <p>Appearance and Odor: Brown/slightly musty</p> <p>Vapor Pressure: 0.000004 mmHg</p> <p>Vapor Density (Air=1): 8.5</p> <p>Specific Gravity (H₂O=1): 1.23</p>	<p>pH: N/A</p> <p>Water Solubility: Reacts with water</p> <p>Boiling Point: >572°F (300°C) decomposes</p> <p>Viscosity: 250 cps</p> <p>% Volatile: None</p> <p>V.O.C. (ref EPA meth 24): None</p>
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Section 10 - Stability and Reactivity

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

Hazardous Polymerization: Polymerization may occur at elevated temperatures in the presence of alkalis, tertiary amines and metal compounds.

Chemical Incompatibilities: Reactive with moisture.

Conditions to Avoid: Avoid high temperatures and freezing

Hazardous Decomposition products: Carbon monoxide, carbon dioxide, nitrous oxide and HCN.

Section 11- Toxicological Information

Animal Toxicity:

LD50 Oral, rat: >5,000 mg/kg

LD50 Dermal, rabbit: >5,000 mg/kg

Section 12 - Ecological Information

Ecotoxicity:

LC50 Zebra fish: >1,000 mg/l

EC50 Daphnia magna: >1,000 mg/l (24 hour)

EC50 E. Coli: >100 mg/l

Section 13 - Disposal Considerations

Waste 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. This material is not a hazardous waste under RCRA 40 CFR 261. Small quantities should be treated with a decontaminant solution (See Section 6). The treated waste is not a hazardous material under RCRA 40 CFR 261. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways. Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

Section 14 - Transport Information

DOT
Not regulated

IATA/IACO
Not regulated

IMO/IMDG
Not regulated

Section 15 - Regulatory Information

U.S. Federal Regulations:
This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

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:
Toxic, irritating substance, sensitizing substance

Section 313: 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:

Diisocyanate compounds (Category Code N120)	100%
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EPCRA Section 313 (40 CFR 372) CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): 4,4'-Diphenylmethane diisocyanate (CAS# 101-68-8) has a 5,000 lb. RQ (reportable quantity). Any spill or release above the RQ must be reported to the National Response Center (800-424-8802). This product does not contain nor is it manufactured with ozone depleting substances.

TSCA: This product or its components are listed in or exempt from the TSCA 8(b) inventory requirements:
All ingredients listed

This product contains the following substances subject to export notification under Section 12 (b) of TSCA:
None

Section 16 - Other Information

Reason for Issue: New Issue
Prepared By: Gus Alidad
Approval Date: 10/26/2005
Supersedes Date: N/A

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