



SAFETY DATA SHEET

PB Fast Set

Section 1. Identification

Product Identifier: PB Fast Set One Part Bonding Adhesive

Chemical family: Aeromatic isocyanates
Synonyms: Diphenylmethane Disocyanate

Product type: Liquid

Recommended Use: Join Precision Board Plus sheets to make them longer, wider, or thicker.

Manufacturer's Name & Address	Emergency Telephone Number (24/7)
Coastal Enterprises Company P.O. Box 4875 Orange, CA 92863-4875 Non- Emergency phone (800) 845-0745	Chemtrec: (800) 424-9300

Section 2. Hazards Identification

Emergency Overview

Contains diphenylmethane diisocyanate (CAS No. 101-68-8) Inhalation MDI mists or vapors may cause respiratory irritation, breathlessness, chest discomfort, and reduced pulmonary function. Overexposure well above the PEL may result in bronchitis, bronchial spasms, and pulmonary edema. Long-term exposure to isocyanates has been reported to cause lung damage, including reduced lung function, which may be permanent. Acute or chronic overexposure to isocyanates may cause sensitization in some individuals resulting in allergic respiratory reactions including wheezing, shortness of breath and difficulty breathing.

Potential Health Effects

Primary routes of exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion, and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute Toxicity: Information on MDI

Inhalation of MDI vapors may cause irritation of the mucous membranes of the nose, throat or trachea, breathlessness, chest discomfort, difficult breathing, and reduced function. Air-borne overexposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of

which may be delayed. Gastrointestinal symptoms include nausea, vomiting, and abdominal pain.

Irritation: Information on Disocyanates

Eye contact with isocyanates may result in conjunctival irritation and mild corneal opacity. Skin contact may result in dermatitis, either irritative or allergic.

Repeated Dose Toxicity: Information on MDI

Results from a lifetime inhalation study of rats indicate that MDI aerosol was carcinogenic at 6mg/m³, the highest dose tested. This is well above the recommended TLV of 5 ppb (0.05 6mg/m³) Only irritation was noted at the lower concentration of 0.2 and 1mg/m³. No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4, and 12 mg/m³ polymeric MDI for 6 hr/day on days 6-15 gestation. Embryotoxicity was reported at the top dose in the presence of maternity toxicity.

Information of Isocyanates

As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization. (chemical asthma) which will cause them to react to a later exposure of isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, coughing, shortness of breath, or asthmatic attack could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized, an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. The increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has been reported to cause lung damage, including a decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent. Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material, or even as a result of vapor-only exposure.

Medical Conditions Aggravated by Overexposure

The isocyanate component is a respiratory sensitizer. It may cause an allergic reaction leading to asthma like spasms of the bronchial tubes and difficulty in breathing. Person with history with respiratory disease or hypersensitivity should not be expose to the product. An animal study indicated that MDI may induce respiratory hypersensitivity following dermal exposure. Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Pre-employment and periodic medical examinations with respiratory function tests (FEV₁,FVC as a minimum) are suggested. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates, further exposure is not recommended. Contact may aggravate pulmonary disorders.

Section 3. Composition / Information on Ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical Name</u>
9016-87-9	<60.0 %	Isocyanate Polymer
101-68-8	<30.0 %	P-MDI
	<17.0 %	Diphenylmethane-4,4' disocyanate
26447-40-5	<3.0 %	disocyanate (MDI)
		MDI

Section 4. First-Aid Measures

Description of Necessary First Aid Measures

General advice:	Remove contaminated clothing
Eye Contact:	Immediately flush eyes with water for 15 minutes, lift upper and lower eyelids. Remove contact lenses. Get medical attention if irritation persists.
Inhalation:	Move to an area that has plenty of fresh air. Rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin Contact:	Flush contaminated skin with soap water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion:	Wash out mouth with water. Seek fresh air and rest in a comfortable position for breathing. If material has been swallowed, drink small quantities of water. Do not induce vomiting. Get medical attention if symptoms occur.

Note to Physician:

Hazards:	Symptoms can appear later
Antidote:	Specific antidotes or neutralizers to isocyanate do not exist
Treatment:	Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

Section 5. Fire-Fighting Measures

Flash point:	228 °c. Closed cup
Auto-ignition:	Unspecified
Self-ignition temperature:	not self-igniting
Suitable extinguishing media:	water, dry extinguishing media, carbon dioxide, foam
Hazards during fire-fighting:	nitrous gases, fumes/smoke, isocyanate, vapor
Protective equipment for fire-fighting:	Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Section 6. Accidental Release Measures

Personal Precautions:

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.



Environmental Precautions:

Do not discharge into drains/surface or waters/ground water.

Cleanup:

Dike spillage

For small amounts: Absorb isocyanate with suitable absorbent material (use 40 CFR, sections 260, 204, and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside) Spill area can be decontaminated with the following recommended decontamination solution. Mixture of 90% water, 8% concentrated ammonia, 2% detergent. Add at a 10 to 1 ratio. Allow it to stand for at least 48 hours to allow escape of evolved carbon dioxide. For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal. For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.

Section 7. Handling and Storage

Handling

General Advice:

Mix thoroughly before use. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

Protection against fire and explosion:

No explosion proofing necessary

Storage:

General Advice:

Formation of CO₂ and build up of pressure possible. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

Storage incompatibility:

General: Segregate from bases.

Storage Stability:

Storage temperature 60-80 °F. Protect against moisture

Section 8. Exposure Controls / Personal Protection

Components with Workplace Control Parameters

Diphenylmethane-4,4'-diisocyanate (MDI)	OSHA CLY 0.02ppm	0.2 mg/m ³
	ACGIH TWA Valve	0.005 ppm

Advice on System Design:

Provide local exhaust ventilation to maintain recommended P.E.L

Personal Protective Equipment

Respiratory Protection

For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life and Health (IDLH), use NOISH-certified full face piece pressure demand self-contained breathing apparatus (SUBA) or a full face piece pressure demand supplied--air respirator (SAR) with escape provisions. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NOISH-certified or air purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place.

Hand Protection

Chemical resistant protective gloves. Suitable materials, chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, fluoroelastomer (Viton)

Eye Protection

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body Protection

Suitable materials, saran contact material

General Safety and Hygiene Measures

Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

Section 9. Physical and Chemical Properties

Appearance

Physical state	Liquid	Vapor pressure	0.00001 mmHg
Color	Amber	Vapor density	N/A
Odor	faintly aromatic	Density	10.16 lb
Odor threshold	N/A	Solubility in water	N/A
pH	N/A	Partition coefficient	N/A
Melting point/Freezing	N/A	Auto-Ignition temp.	N/A
Boiling/condensation point	>200°C	Decomposition temp	N/A
Flash point	N/A	Viscosity	4,350 mPa.s
Evaporation rate	N/A		
Flammability (solid, gas)	N/A		
Lower and upper explosive (flammable) limits	N/A		

Section 10. Stability and Reactivity

Conditions to Avoid:

Avoid moisture

Substances to Avoid:

Water, alcohols, strong bases, substances/products that react with isocyanates.

Hazardous Reactions:

This product is chemically stable:

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of violent reaction. Risk of polymerization. Contact with rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

Decomposition Products:

Hazardous decomposition products: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors.

Corrosion to Metals:

No corrosive effect on metal.

Oxidizing Properties:

Not an oxidizer

Section 11. Toxicological Information

Section 12. Ecological Information

Information on: Diphenylmethane-4,4' diisocyanate (MDI)

Acute and prolonged toxicity to fish

OECD Guideline 203 static

zebra fish/LC0 (96 h): > 1,000mg/l

Information on: Diphenylmethane-4,4' diisocyanate (MDI)

Acute toxicity to aquatic invertebrates:

OECD Guideline 202 part 1 static

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

Section 13. Disposal Considerations

Waste Disposal of Substance:

Incinerate or dispose of in a licensed facility.

Do not discharge substance/product into the sewer system.

Container Disposal

Drums:

Steel drums must be emptied and can be sent to a licensed drum re-conditioner for reuse, a scrap metal dealer, or an approved landfill. Refer to 40 CFR 261.7 (residues of hazardous waste in empty containers). Check with re-conditioner to determine if decontamination is required. Decontaminate containers prior to disposal. Recommend crushing, puncturing, or other means to prevent unauthorized use of used containers.

Section 14. Transport Information

Reference Bill of Lading

Section 15. Regulatory Information

Safety, health and environmental regulations specific for this product:

United States Regulations

TSCA 8(b) Inventory	Released / Listed	
OSHA Hazard Category	Chronic target organ effects reported, ACGIH TLV established	
<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical Name</u>
5000 lbs.	101-68-8	Diphenylmethane-4,4' diisocyanate (MDI)

State Regulations

State RTK

<u>CAS Number</u>	<u>Chemical Name</u>	<u>State RTK</u>
9016-87-9	P-MDI	NJ
101-68-8	Diphenylmethane-4,4' diisocyanate	MA, NJ, PA

Section 16. Other Information

Hazardous Material Information System (USA):

Health: 2 Flammability: 1 Physical Hazard: 1

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard, a rating of 4 indicates a high hazard.

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