

# Permabond®

## Engineering Adhesives

### SAFETY DATA SHEET

#### Permabond PT321B

#### 1. Identification

##### Product identifier

Product name Permabond PT321B

##### Recommended use of the chemical and restrictions on use

Application Adhesive.

##### Details of the supplier of the safety data sheet

Supplier Permabond LLC  
14 Robinson Street  
Pottstown, PA 19464  
USA  
Telephone: 732-868-1372 or 800-640-7599  
Website: www.permabond.com



chemical-concepts.com

**800.220.1966**

410 Pike Road • Huntingdon Valley, PA 19006

##### Emergency telephone number

Emergency telephone Medical: Poison Control Center 866-827-6282 (toll free) or 303-389-1109 Transport: CHEMTREC 800-424-9300

#### 2. Hazard(s) identification

##### Classification of the substance or mixture

OSHA Regulatory Status Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373

##### Label elements

##### Hazard symbols



##### Signal word

Danger

##### Hazard statements

H332 Harmful if inhaled.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H317 May cause an allergic skin reaction.  
H351 Suspected of causing cancer.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

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<b>Precautionary statements</b>	<p>P201 Obtain special instructions before use.</p> <p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P260 Do not breathe vapor/ spray.</p> <p>P261 Avoid breathing vapor/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P272 Contaminated work clothing must not be allowed out of the workplace.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P284 In case of inadequate ventilation wear respiratory protection.</p> <p>P302+P352 If on skin: Wash with plenty of water.</p> <p>P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308+P313 If exposed or concerned: Get medical advice/ attention.</p> <p>P312 Call a poison center/ doctor if you feel unwell.</p> <p>P314 Get medical advice/ attention if you feel unwell.</p> <p>P332+P313 If skin irritation occurs: Get medical advice/ attention.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P342+P311 If experiencing respiratory symptoms: Call a poison center/ doctor.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p> <p>Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.</p>
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<b>Contains</b>	DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues
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### 3. Composition/information on ingredients

#### Mixtures

<b>DIPHENYLMETHANEDIISOCYANATE -Isomers &amp; homologues</b>	<b>60-100%</b>
CAS number: 9016-87-9	
REACH registration exemption – POLYMER	
<b>Classification</b> Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373	

The full text for all hazard statements is displayed in Section 16.

<b>Composition comments</b>	Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections. Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.
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### 4. First-aid measures

#### Description of first aid measures

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<b>Inhalation</b>	Move affected person to fresh air at once. Keep affected person warm and at rest. Get medical attention immediately.
<b>Ingestion</b>	Do not induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.
<b>Skin Contact</b>	Remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms develop, obtain medical attention
<b>Eye contact</b>	Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Remove any contact lenses and open eyelids wide apart. Get medical attention.

### Most important symptoms and effects, both acute and delayed

<b>Inhalation</b>	Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory allergy. May cause sensitisation by inhalation.
<b>Ingestion</b>	May cause irritation.
<b>Skin contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation.

### Indication of immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Vapors may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness. No specific recommendations. Treat symptomatically.
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## 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	Extinguish with foam, carbon dioxide, dry powder or water fog.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

### Special hazards arising from the substance or mixture

<b>Specific hazards</b>	Containers can burst violently or explode when heated, due to excessive pressure build-up.
<b>Hazardous combustion products</b>	Burning produces irritating, toxic and obnoxious fumes. Fire creates: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrogen cyanide (HCN). Isocyanates. Nitrous gases (NO <sub>x</sub> ).
<b><u>Advice for firefighters</u></b>	
<b>Protective actions during firefighting</b>	Keep up-wind to avoid fumes. Avoid breathing fire gases or vapors.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Do not breathe vapor.
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### Environmental precautions

<b>Environmental precautions</b>	Avoid the spillage or runoff entering drains, sewers or watercourses.
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### Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal.
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**Reference to other sections** For personal protection, see Section 8. For waste disposal, see section 13.

### 7. Handling and storage

#### Precautions for safe handling

**Usage precautions** Avoid contact with skin, eyes and clothing. Do not breathe vapour/spray. Wash hands thoroughly after handling. Keep container tightly sealed when not in use.

#### Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place.

#### Specific end uses(s)

**Specific end use(s)** Two-component, isocyanate-based sealant. Adhesive.

### 8. Exposure controls/Personal protection

#### Exposure controls

**Appropriate engineering controls** Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for slashing or spraying exists.

**Hand protection** Nitrile rubber or Viton™ gloves are recommended. Cotton or other absorbent gloves should not be worn.

**Other skin and body protection** Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.

**Hygiene measures** Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated.

**Respiratory protection** Respiratory protection may be required if excessive airborne contamination occurs. Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

### 9. Physical and chemical properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Viscous liquid.
<b>Color</b>	Cream.
<b>Odor</b>	Musty (mouldy).
<b>Odor threshold</b>	No information available.
<b>pH</b>	Not relevant.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	Not relevant.
<b>Flash point</b>	>100°C
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Not available.
<b>Vapor pressure</b>	Not available.

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<b>Vapor density</b>	Not available.
<b>Relative density</b>	1.45
<b>Solubility(ies)</b>	Hardens in contact with water. Soluble in the following materials: Organic solvents.
<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	≈4500 mPa s @ 23°C Thixotropic
<b>Explosive properties</b>	Not relevant.
<b>Oxidizing properties</b>	Not applicable.
<b>Other information</b>	Not relevant.
<b>Volatile organic compound</b>	<2 %, 20 grams/liter (Estimated)

### 10. Stability and reactivity

<b>Reactivity</b>	Reactions with the following materials may generate heat: Water. The following materials may react with the product: Strong oxidizing agents. Alcohols, glycols.
<b>Stability</b>	Stable at normal ambient temperatures. Polymerizes when heated.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, no hazardous reactions will occur.
<b>Conditions to avoid</b>	Avoid contact with water. Contains non-volatile isocyanate. Heating may generate vapors which irritate the respiratory system, cause asthmatic breathing, breathlessness and risk of development of respiratory allergy.
<b>Materials to avoid</b>	Strong oxidizing agents. Strong reducing agents. Water, moisture. Amines. Alcohols.
<b>Hazardous decomposition products</b>	Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds. Isocyanates.

### 11. Toxicological information

#### Information on toxicological effects

<b>Toxicological effects</b>	The toxicological properties of this product have not been fully evaluated. Use of good industrial hygiene practices is required. Avoid direct contact with skin or eyes. Do not ingest or inhale.
<b><u>Skin corrosion/irritation</u></b>	
<b>Skin corrosion/irritation</b>	Irritating to skin.
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Causes serious eye irritation.
<b><u>Respiratory sensitization</u></b>	
<b>Respiratory sensitization</b>	May cause sensitization or allergic reactions in sensitive individuals. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b><u>Skin sensitization</u></b>	
<b>Skin sensitization</b>	May cause sensitisation by skin contact.

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### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

**Genotoxicity - in vivo** Based on available data the classification criteria are not met.

### Carcinogenicity

**Carcinogenicity** Suspected of causing cancer.

**IARC carcinogenicity** IARC Group 3 Not classifiable as to its carcinogenicity to humans.

### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development** Based on available data the classification criteria are not met.

### Specific target organ toxicity - single exposure

**STOT - single exposure** May cause respiratory irritation.

**Target organs** Respiratory system, lungs

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Prolonged or repeated exposure may cause lung damage.

**Target organs** Lungs

### Aspiration hazard

**Aspiration hazard** Based on available data the classification criteria are not met.

**Inhalation** Unlikely to be hazardous by inhalation because of the low vapor pressure of the product at ambient temperature. May cause respiratory system irritation.

**Ingestion** No harmful effects expected from quantities likely to be ingested by accident.

**Skin Contact** Irritating to skin.

**Eye contact** Causes serious eye irritation.

**Acute and chronic health hazards** Irritating to eyes. Irritating to skin. Irritating to respiratory system. Prolonged or repeated exposure may cause lung damage.

**Route of exposure** Skin and/or eye contact Inhalation

**Target Organs** Skin Eyes Lungs

### Toxicological information on ingredients.

#### DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues

##### Carcinogenicity

**IARC carcinogenicity** IARC Group 3 Not classifiable as to its carcinogenicity to humans.

## 12. Ecological information

**Ecotoxicity** There are no data on the ecotoxicity of this product.

### Bioaccumulative potential

**Partition coefficient** Not available.

### Other adverse effects

**Other adverse effects** None known.

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### 13. Disposal considerations

#### Waste treatment methods

<b>General information</b>	Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.
<b>Disposal methods</b>	Dispose of according to Federal, State and local governmental regulations.
<b>Waste class</b>	08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

### 14. Transport information

**General** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

#### UN Number

**UN No. (International)** Not applicable.

#### UN proper shipping name

**Proper shipping name (International)** Not applicable.

#### Transport hazard class(es)

**Transport Labels (International)** No transport warning sign required.

#### Packing group

**Packing group (International)** Not applicable.

#### Environmental hazards

**Environmentally Hazardous Substance**  
No.

### 15. Regulatory information

#### US Federal Regulations

**SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**  
None above reporting levels

**CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**  
None above reporting limits

**SARA Extremely Hazardous Substances EPCRA Reportable Quantities**  
None above reporting limits

**SARA 313 Emission Reporting**  
None above reporting limits

**SARA (311/312) Hazard Categories**  
Acute  
Chronic

#### US State Regulations

##### **California Proposition 65 Carcinogens and Reproductive Toxins**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm

## Permabond PT321B

### Inventories

#### Canada - DSL/NDSL

All the ingredients are listed or exempt.

#### US - TSCA

All the ingredients are listed or exempt.

#### US - TSCA 12(b) Export Notification

None above reporting limits

### 16. Other information

#### Classification abbreviations and acronyms

Acute Tox. = Acute toxicity  
 Eye Irrit. = Eye irritation  
 Resp. Sens. = Respiratory sensitisation  
 Skin Sens. = Skin sensitisation  
 Carc. = Carcinogenicity  
 STOT SE = Specific target organ toxicity-single exposure  
 STOT RE = Specific target organ toxicity-repeated exposure

#### Revision date

1/20/2022

#### Revision

8

#### Supersedes date

11/6/2019

#### Hazard statements in full

H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H332 Harmful if inhaled.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335 May cause respiratory irritation.  
 H351 Suspected of causing cancer.  
 H373 May cause damage to organs through prolonged or repeated exposure.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.