

Permabond®

Engineering Adhesives

SAFETY DATA SHEET

Permabond ET5392B

1. Identification

Product identifier

Product name Permabond ET5392B

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

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 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Label elements

Hazard symbols



Signal word Danger

Hazard statements H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.

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|---------------------------------|--|
| Precautionary statements | <p>P261 Avoid breathing vapor/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</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>P302+P352 If on skin: Wash with plenty of water.</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>P310 Immediately call a poison center/ doctor.</p> <p>P321 Specific treatment (see medical advice on this label).</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>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p> |
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| | |
|-----------------|--|
| Contains | <p>POLYAMINOAMIDE, 3-AMINOPROPYLDIMETHYLAMINE, 4,4'-ISOPROPYLIDENEDIPHENOL, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE, OXIRANE, MONO [(C12-14- ALKYLOXY)METHYL] DERIVS, FORMALDEHYDE, OLIGOMERIC REACTION PRODUCT WITH 1-CHLORO, 2,3-EPOXYPROPANE AND PHENOL</p> |
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Other hazards

None under normal conditions.

3. Composition/information on ingredients

Mixtures

| | |
|-----------------------------------|---------------|
| POLYAMINOAMIDE | 30-60% |
| CAS number: 68082-29-1 | |
| Classification | |
| Skin Irrit. 2 - H315 | |
| Eye Dam. 1 - H318 | |
| Skin Sens. 1 - H317 | |
| Not relevant. | |
| 3-AMINOPROPYLDIMETHYLAMINE | 1-5% |
| CAS number: 109-55-7 | |
| Classification | |
| Flam. Liq. 3 - H226 | |
| Acute Tox. 4 - H302 | |
| Skin Corr. 1B - H314 | |
| Eye Dam. 1 - H318 | |
| Skin Sens. 1 - H317 | |

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|---|---------------|
| 4,4'-ISOPROPYLIDENEDIPHENOL, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE | <1% |
| CAS number: 25068-38-6 | |
| Classification Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317 Not relevant. | |
| FORMALDEHYDE, OLIGOMERIC REACTION PRODUCT WITH 1-CHLORO, 2,3-EPOXYPROPANE AND PHENOL | <1% |
| CAS number: 9003-36-5 | |
| Classification Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Not relevant. | |
| OXIRANE, MONO [(C12-14- ALKYLOXY)METHYL] DERIVS | <1% |
| CAS number: 68609-97-2 | |
| Classification Skin Irrit. 2 - H315 Skin Sens. 1 - H317 | |

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

Composition comments Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. First-aid measures

Description of first aid measures

| | |
|---------------------|---|
| Inhalation | Move the exposed person to fresh air. Get medical attention if any discomfort continues. |
| Ingestion | Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention if any discomfort continues. |
| Skin Contact | Remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms develop, obtain medical attention |
| Eye contact | 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

| | |
|---------------------|--|
| Skin contact | Causes skin irritation. May cause an allergic skin reaction. |
| Eye contact | Causes serious eye irritation. May cause serious eye damage. |

Indication of immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. Treat symptomatically.

5. Fire-fighting measures

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Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Hazardous combustion products Burning produces irritating, toxic and obnoxious fumes. Carbon monoxide, carbon dioxide, and unknown hydrocarbons.

Advice for firefighters

Protective actions during firefighting Use water to keep fire exposed containers cool and disperse vapors.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal.

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) Adhesive.

8. Exposure controls/Personal protection

Ingredient comments WEL = Workplace Exposure Limits

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 Chemical splash goggles or face shield.

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.

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| 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. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. |

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|---|---|
| Appearance | Paste. |
| Color | Black. |
| Odor | Mild. Amine. |
| Odor threshold | No information available. |
| pH | Not relevant. |
| Melting point | Not available. |
| Initial boiling point and range | Not relevant. |
| Flash point | >100°C |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | 1.33 |
| Solubility(ies) | Insoluble in water. Soluble in the following materials: Organic solvents. |
| Partition coefficient | Not available. |
| Auto-ignition temperature | Not applicable. |
| Decomposition Temperature | Not available. |
| Viscosity | ~40000 cP @ 23°C |
| Explosive properties | Not relevant. |
| Oxidizing properties | Not applicable. |
| Other information | Not relevant. |
| Volatile organic compound | <2 %, 20 grams/liter (Estimated) |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The following materials may react with the product: Strong oxidizing agents. Acids. |
| Stability | Stable at normal ambient temperatures. Polymerizes when heated. |
| Possibility of hazardous reactions | Reactions with the following materials may generate heat: Amines. |

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Conditions to avoid Do not store near heat sources or expose to high temperatures.

Materials to avoid Amines. Strong oxidizing agents.

Hazardous decomposition products Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

11. Toxicological information

Information on toxicological effects

Toxicological effects 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.

Skin corrosion/irritation

Skin corrosion/irritation Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization May cause sensitisation by skin contact.

Germ cell mutagenicity

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

Carcinogenicity

Carcinogenicity Does not contain any substances known to be carcinogenic.

Reproductive toxicity

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

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

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. In high concentrations, vapors may irritate throat and respiratory system and cause coughing.

Ingestion

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

Skin Contact

Irritating to skin.

Eye contact

Causes serious eye damage.

Toxicological information on ingredients.

POLYAMINOAMIDE

Acute toxicity - oral

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|--|---|
| Acute toxicity oral (LD₅₀ mg/kg) | 2,000.1 |
| Species | Rat |
| <u>Acute toxicity - dermal</u> | |
| Acute toxicity dermal (LD₅₀ mg/kg) | 2,000.1 |
| Species | Rat |
| <u>Skin corrosion/irritation</u> | |
| Skin corrosion/irritation | Irritating to skin. |
| <u>Serious eye damage/irritation</u> | |
| Serious eye damage/irritation | Irritating to eyes. |
| <u>Respiratory sensitization</u> | |
| Respiratory sensitization | No information available. |
| <u>Skin sensitization</u> | |
| Skin sensitization | Sensitizing. |
| <u>Germ cell mutagenicity</u> | |
| Genotoxicity - in vitro | No information available. |
| <u>Carcinogenicity</u> | |
| Carcinogenicity | No specific test data are available. |
| <u>Reproductive toxicity</u> | |
| Reproductive toxicity - fertility | Screening - NOAEL 1000 mg/kg/day, Oral, Rat |
| <u>Specific target organ toxicity - single exposure</u> | |
| STOT - single exposure | No information available. |
| <u>Specific target organ toxicity - repeated exposure</u> | |
| STOT - repeated exposure | No information available. |
| <u>Aspiration hazard</u> | |
| Aspiration hazard | Not available. |

3-AMINOPROPYLDIMETHYLAMINE

| | |
|--|---------|
| <u>Acute toxicity - oral</u> | |
| Acute toxicity oral (LD₅₀ mg/kg) | 410.0 |
| Species | Rat |
| <u>Acute toxicity - dermal</u> | |
| Acute toxicity dermal (LD₅₀ mg/kg) | 2,138.7 |
| Species | Rabbit |

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Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 4.31

Species Rat

Skin corrosion/irritation

Skin corrosion/irritation Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Corrosive Irreversible effect.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL 200 mg/kg/day, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - NOAEL: 1000 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

4,4'-ISOPROPYLIDENEDIPHENOL, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 11,400.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.1

Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No specific test data are available.

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Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Animal data Edema score: Very slight oedema - barely perceptible (1).

Serious eye damage/irritation

Serious eye damage/irritation Not irritating.

Respiratory sensitization

Respiratory sensitization No specific test data are available.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Conclusive data but not sufficient for classification.

Carcinogenicity

Carcinogenicity Conclusive data but not sufficient for classification.

Reproductive toxicity

Reproductive toxicity - fertility Fertility - NOAEL 750 mg/kg/day, Oral, Rat

Reproductive toxicity - development Developmental toxicity: - NOAEL: 180 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No specific test data are available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Conclusive data but not sufficient for classification.

Aspiration hazard

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

FORMALDEHYDE, OLIGOMERIC REACTION PRODUCT WITH 1-CHLORO, 2,3-EPOXYPROPANE AND PHENOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 10,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.1

Species Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

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Animal data Method: OECD 404, Rabbit Slightly irritating.

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit Not irritating.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Positive.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity Data lacking.

Reproductive toxicity

Reproductive toxicity - fertility Read-across data. Two-generation study - NOAEL 750 mg/kg/day, Oral, Rat F2

Reproductive toxicity - development Read-across data. Developmental toxicity: - NOAEL: 30 mg/kg, Dermal, Rabbit

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard Not available.

OXIRANE, MONO [(C12-14- ALKYLOXY)METHYL] DERIVS

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 17,100.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 4,000.0

Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Data lacking.

Skin corrosion/irritation

Animal data Rabbit Moderately irritating.

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit Slightly irritating.

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Skin sensitization

Skin sensitization Guinea pig maximization test (GPMT) - Guinea pig: Sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Genome mutation: Positive.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility One-generation study - NOAEL 200 mg/kg/day, Dermal, Rat F1

Reproductive toxicity - development Developmental toxicity: - NOAEL: 200 mg/kg/day, Dermal, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard Not available.

12. Ecological information

Toxicity No data available.

Bioaccumulative potential

Partition coefficient Not available.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

Disposal methods Dispose of according to Federal, State/Provincial and local regulations. Refer to section 8 before handling.

14. Transport information

Sea transport notes Applies only to inner containers >5 litres. See 2.10.2.7 of the IMDG code.

Air transport notes Applies only to inner containers >5 liters. See SP A197 (375)

DOT transport notes Applies only to inner containers >5 liters. See CFR 49173.155 and 172.102.173

UN Number

UN No. (IMDG) 3082

UN No. (ICAO) 3082

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UN No. (DOT) UN3082

UN proper shipping name

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Proper shipping name (DOT) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

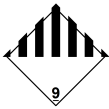
Transport hazard class(es)

DOT hazard class 9

IMDG Class 9

ICAO class/division 9

Transport labels



Packing group

IMDG packing group III

ICAO packing group III

DOT packing group III

Environmental hazards

Environmentally Hazardous Substance



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

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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 | Eye Irrit. = Eye irritation Skin Irrit. = Skin irritation Skin Sens. = Skin sensitisation |
| Revision date | 12/20/2021 |
| Revision | 2 |
| Supersedes date | 6/27/2019 |
| Hazard statements in full | H226 Flammable liquid and vapor. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. |