

SAFETY DATA SHEET Permabond ET5401B

1. Identification

Product identifier

Product name Permahond FT5401B

Recommended use of the chemical and restrictions on use

Application Two-component, epoxy-based 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 Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Repr. 2 - H361 STOT RE 1 -

H372

Label elements

Hazard symbols







Signal word Danger

Hazard statements H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

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Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe vapor/ spray. P261 Avoid breathing vapor/ spray.

P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

P302+P352 If on skin: Wash with plenty of water.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

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.

P310 Immediately call a poison center/ doctor.
P314 Get medical advice/ attention if you feel unwell.
P321 Specific treatment (see medical advice on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/ container in accordance with national regulations.

TRIMETHYLCYCLOHEXYLAMINE, BIS[(DIMETHYLAMINO)METHYL]PHENOL

Contains

ATBN POLYMER, POLYOXYPROPYLENEDIAMINE, 2-PIPERAZIN-1-YLETHYLAMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL, 3-AMINOMETHYL-3,5,5-

Other hazards

None under normal conditions.

3. Composition/information on ingredients

Mixtures

ATBN POLYMER 30-60%

CAS number: 68683-29-4

REACH registration exemption - POLYMER

Classification

Skin Irrit. 2 - H315 Skin Sens. 1 - H317

POLYOXYPROPYLENEDIAMINE

10-30%

CAS number: 9046-10-0

Classification

Skin Corr. 1B - H314 Eye Dam. 1 - H318 Not relevant.

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2-PIPERAZIN-1-YLETHYLAMINE

5-10%

CAS number: 140-31-8

Classification

Acute Tox. 4 - H302 Acute Tox. 3 - H311 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Repr. 2 - H361 STOT RE 1 - H372 Not relevant.

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

1-5%

CAS number: 90-72-2

Classification

Skin Corr. 1A - H314 Skin Sens. 1 - H317

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE

1-5%

CAS number: 2855-13-2

Classification

Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Not relevant.

BIS[(DIMETHYLAMINO)METHYL]PHENOL

1-5%

CAS number: 71074-89-0

IMPURITY

Classification

Skin Corr. 1B - H314 Eye Dam. 1 - H318

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

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 Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical

attention.

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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 immediately.

Most important symptoms and effects, both acute and delayed

Ingestion May cause chemical burns in mouth and throat.

Skin contact Chemical burns. Mild dermatitis, allergic skin rash.

Eye contact Causes 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

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 Burning produces irrita

products

Burning produces irritating, toxic and obnoxious fumes. Nitrous gases (NOx). Carbon

monoxide, carbon dioxide, and unknown hydrocarbons.

Advice for firefighters

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 precautionsWear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

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 gas, fume, vapours or spray. Wash

hands thoroughly after handling. Use only in well-ventilated areas. 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)

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Specific end use(s) Adhesive. Sealant.

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 The following protection should be worn: 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.

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. Use appropriate skin cream to prevent

drying of skin.

Respiratory protection No specific recommendations. Respiratory protection may be required if excessive airborne

contamination occurs.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance Paste.

Color Black.

Odor Amine.

Odor threshold Not determined.

pH Not determined.

Melting point Not determined.

Initial boiling point and range Not determined.

Flash point >100°C

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or

explosive limits

Not available.

Vapor pressure Not determined.
Vapor density Not determined.

Relative density 1.1 @ 23°C

Solubility(ies) Slightly soluble in water. Soluble in the following materials: Organic solvents.

Partition coefficient Not available.

Auto-ignition temperature Not determined.

Decomposition Temperature Not determined.

Viscosity 200,000 cP @ 23°C

Explosive properties Not determined.

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Oxidizing properties Not applicable.

Other information Not relevant.

Volatile organic compound <2 %, 20 grams/liter (Estimated)

10. Stability and reactivity

Reactivity There are no known reactivity hazards associated with this product.

Stability Stable at normal ambient temperatures.

Possibility of hazardous

reactions

Reactions with the following materials may generate heat: Epoxy Resin

Conditions to avoid Avoid excessive heat for prolonged periods of time.

Materials to avoid Avoid contact with the following materials: Acids. 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 Causes burns.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Skin sensitization

Skin sensitization May cause sensitisation by skin contact.

Germ cell mutagenicity

Genotoxicity - in vitroBased 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 Contains a substance/a group of substances which may damage the unborn child.

Reproductive toxicity -

development

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 Contact with concentrated chemical may cause severe skin damage.

Aspiration hazard

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

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Inhalation Unlikely to be hazardous by inhalation because of the low vapor pressure of the product at

ambient temperature. Gas or vapor in high concentrations may irritate the respiratory system.

Symptoms following overexposure may include the following: Coughing.

Ingestion Causes burns. May cause chemical burns in mouth and throat. May cause stomach pain or

vomiting.

Skin Contact This product is strongly irritating. Prolonged contact may cause burns.

Eye contact Causes serious eye damage.

Acute and chronic health

hazards

This product is strongly irritating. Causes burns. May cause chemical eye burns.

Route of exposure Skin and/or eye contact

Toxicological information on ingredients.

ATBN POLYMER

Acute toxicity - oral

Acute toxicity oral (LD50

15,400.0

mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 3,000.0

mg/kg)

Rabbit

Species

Acute toxicity - inhalation

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

Skin corrosion/irritation

Skin corrosion/irritation Moderately irritating. Rabbit

Serious eye damage/irritation

Serious eye

Slightly irritating. Rabbit

damage/irritation

Skin sensitization

Skin sensitization Sensitizing. Guinea pig

Germ cell mutagenicity

Genotoxicity - in vitroNo specific test data are available.

Carcinogenicity

Carcinogenicity No specific test data are available.

Reproductive toxicity

Reproductive toxicity -

reproductive toxicity

No specific test data are available.

fertility

Specific target organ toxicity - single exposure

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

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

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

POLYOXYPROPYLENEDIAMINE

Acute toxicity - oral

Acute toxicity oral (LD₅o

2,885.3

mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,979.7

mg/kg)

Species Rabbit

Skin corrosion/irritation

Animal data Corrosive.

Serious eye damage/irritation

Serious eye

Corrosive

damage/irritation

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo

Negative.

Reproductive toxicity

Reproductive toxicity -

Developmental toxicity: - NOAEL: 30 mg/kg, Dermal, Rat

development

Specific target organ toxicity - single exposure

STOT - single exposure Not available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not available.

Aspiration hazard

Aspiration hazard Not available.

Ingestion May cause burns in mucous membranes, throat, esophagus and stomach.

Skin Contact Causes severe burns.

Eye contact Causes serious eye damage.

2-PIPERAZIN-1-YLETHYLAMINE

Acute toxicity - oral

Acute toxicity oral (LD50

1,500.0

mg/kg)

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Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 866.0

mg/kg)

Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC50) No information available.

Skin corrosion/irritation

Animal data Severe skin irritation. Rabbit

Serious eye damage/irritation

Serious eye Highly irritating. Rabbit

damage/irritation

Skin sensitization

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

Germ cell mutagenicity

Genotoxicity - in vitroGene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - Screening - NOAEC 8000 mg/l, Oral, Rat P

fertility

Reproductive toxicity - Developmental toxicity: - NOAEL: 75 mg/kg/day, Oral, Rabbit

development

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.

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 2,169.0

mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 1,280.0

mg/kg)

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Species Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Method: OECD 404, Rabbit Corrosive.

Serious eye damage/irritation

Serious eye Irritating to eyes. Risk of serious damage to eyes.

damage/irritation

Skin sensitization

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

Germ cell mutagenicity

Genotoxicity - in vitroGene mutation: Negative.

Carcinogenicity

Carcinogenicity Not available.

Reproductive toxicity

Reproductive toxicity -

Screening - NOAEL 15 mg/kg/day, Oral, Rat F1

fertility

Reproductive toxicity -

development

Developmental toxicity: - NOAEL: >150 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 Not available.

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Acute toxicity - oral

Acute toxicity oral (LD50

mg/kg)

1,030.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,000.0

mg/kg)

Species

Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Skin corrosion/irritation Corrosive to skin.

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Serious eye damage/irritation

Serious eye

Method: OECD 405, Rabbit Corrosive

damage/irritation
Skin sensitization

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

Germ cell mutagenicity

Genotoxicity - in vitroGene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity -

No information available.

fertility

Reproductive toxicity -

development

Developmental toxicity: - NOAEL: >250 mg/kg/day, Oral, Rat

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.

12. Ecological information

Toxicity There are no data on the ecotoxicity of this product.

Bioaccumulative potential

Partition coefficient Not available.

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 methodsDispose of according to Federal, State/Provincial and local regulations. Refer to section 8

before handling.

14. Transport information

UN Number

UN No. (IMDG) 2735

UN No. (ICAO) 2735

UN No. (DOT) UN2735

UN proper shipping name

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Proper shipping name (IMDG) POLYAMINES, LIQUID, CORROSIVE, N.O.S (contains Polyoxypropylenediamine and 2-

Piperazin-1-ylethylamine)

Proper shipping name (ICAO) POLYAMINES, LIQUID, CORROSIVE, N.O.S (contains Polyoxypropylenediamine and 2-

Piperazin-1-ylethylamine)

Proper shipping name (DOT) POLYAMINES, LIQUID, CORROSIVE, N.O.S. (contains Polyoxypropylenediamine and 2-

Piperazin-1-ylethylamine)

Transport hazard class(es)

DOT hazard class 8

DOT hazard label 8

IMDG Class 8

ICAO class/division 8

Transport labels



DOT transport labels



Packing group

IMDG packing group III

ICAO packing group III

DOT packing group

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 limits.

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

Permabond ET5401B

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

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 Dam. = Serious eye damage

Skin Corr. = Skin corrosion

Skin Sens. = Skin sensitisation

Revision date 4/2/2020

Revision 1

Hazard statements in full H302 Harmful if swallowed.

H311 Toxic in contact with skin. H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes 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.