

Permabond®

Engineering Adhesives



chemical-concepts.com

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410 Pike Road • Huntingdon Valley, PA 19006

SAFETY DATA SHEET

Permabond TA4810B

1. Identification

Product identifier

Product name Permabond TA4810B

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 Flam. Liq. 2 - H225

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317 STOT SE 3 - H335

Label elements

Hazard symbols



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

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Precautionary statements	<p>P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.</p> <p>P240 Ground/ bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical equipment.</p> <p>P242 Use only non-sparking tools.</p> <p>P243 Take precautionary measures against static discharge.</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>P302+P352 If on skin: Wash with plenty of water.</p> <p>P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.</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>P312 Call a poison center/ doctor if you feel unwell.</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>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
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Contains METHYL METHACRYLATE, METHACRYLIC ACID

Other hazards

Does not decompose when used and stored as recommended.

3. Composition/information on ingredients

Mixtures

METHYL METHACRYLATE CAS number: 80-62-6	60-100%
Classification Flam. Liq. 2 - H225 Skin Irrit. 2 - H315 Skin Sens. 1 - H317 STOT SE 3 - H335	
2,6-DI-TERT-BUTYL-P-CRESOL CAS number: 128-37-0 REACH registration exemption – < 1 tonne	5-10%
Classification Not relevant.	

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METHACRYLIC ACID	1-5%
CAS number: 79-41-4	
Classification Acute Tox. 4 - H302 Acute Tox. 3 - H311 Acute Tox. 4 - H332 Skin Corr. 1A - H314 Eye Dam. 1 - H318 STOT SE 3 - H335	

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 affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
Skin Contact	Wash with plenty of soap and water. Remove contaminated clothing immediately and wash skin with soap and water. Wash clothing and clean shoes thoroughly before reuse. Get medical attention if irritation persists after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

Most important symptoms and effects, both acute and delayed

Inhalation	May cause respiratory system irritation. May cause drowsiness or dizziness.
Ingestion	May cause irritation.
Skin contact	Causes skin irritation. May cause allergic skin reaction.
Eye contact	Causes serious eye irritation.

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

Specific hazards	Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO ₂). Carbon monoxide (CO). Irritating gases or vapors.

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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 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 Eliminate all sources of ignition. Provide adequate ventilation. Absorb spillage with sand or other inert absorbent. Place waste in labeled, sealed containers.

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 Keep away from heat, sparks and open flame. Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling. Keep container tightly sealed when not in use. Do not eat, drink or smoke when using this product. All handling should only take place in well-ventilated areas.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store away from incompatible materials (see Section 10). Protect from light.

Specific end uses(s)

Specific end use(s) Adhesive.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

METHYL METHACRYLATE

Long-term exposure limit (8-hour TWA): ACGIH 50 ppm 205 mg/m³

Short-term exposure limit (15-minute): ACGIH 100 ppm 410 mg/m³

A4, DSens

Long-term exposure limit (8-hour TWA): OSHA 100 ppm 410 mg/m³

2,6-DI-TERT-BUTYL-P-CRESOL

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³ inhalable fraction and vapor

A4

METHACRYLIC ACID

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 70 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

A4 = Not Classifiable as a Human Carcinogen.

DSens = Dermal sensitizer.

OSHA = Occupational Safety and Health Administration.

Ingredient comments WEL = Workplace Exposure Limits

Exposure controls

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Appropriate engineering controls	Observe any occupational exposure limits for the product or ingredients. Provide adequate general and local exhaust ventilation.
Eye/face protection	Chemical splash goggles or face shield.
Hand protection	It is recommended that chemical-resistant, impervious gloves are worn.
Other skin and body protection	Wear appropriate clothing to prevent skin contamination.
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. Organic vapor filter.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Liquid.
Color	Off-white.
Odor threshold	Not available.
pH	Not relevant.
Melting point	Not available.
Initial boiling point and range	Not applicable.
Flash point	Methyl-methacrylate: 10°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.
Solubility(ies)	Slightly soluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Oxidizing properties	Not available.
Other information	Not relevant.

10. Stability and reactivity

Reactivity	Not available
Stability	Stable at normal ambient temperatures.
Possibility of hazardous reactions	Reactions with the following materials may generate heat: Amines. Organic peroxides/hydroperoxides.

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Conditions to avoid	Avoid heat, flames and other sources of ignition.
Materials to avoid	Oxidizing agents. Reducing agents. Acids. Peroxides.
Hazardous decomposition products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO ₂). Carbon monoxide (CO). Irritating gases or vapors.

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.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Causes skin irritation.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye irritation.
<u>Skin sensitization</u>	
Skin sensitization	May cause sensitisation by skin contact.
<u>Germ cell mutagenicity</u>	
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.
<u>Carcinogenicity</u>	
Carcinogenicity	No component of this product present at levels great than or equal to 0.1% is identified as a known carcinogen.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Does not contain any substances known to be toxic to reproduction.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	May cause respiratory irritation.
Target organs	Respiratory tract
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Based on available data the classification criteria are not met.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
Inhalation	May cause respiratory system irritation. May cause drowsiness or dizziness.
Ingestion	May cause irritation.
Skin Contact	May cause allergic skin reaction.
Eye contact	Causes serious eye irritation.

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Acute and chronic health hazards Causes serious eye irritation. Causes skin irritation.

Route of exposure Skin and/or eye contact Inhalation

Target Organs Respiratory tract Skin Eyes

Toxicological information on ingredients.

METHYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 29.8

Species Rat

Skin corrosion/irritation

Skin corrosion/irritation Not irritating. Prolonged skin contact may cause temporary irritation.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating.

Respiratory sensitization

Respiratory sensitization Mouse: Sensitizing.

Skin sensitization

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

Germ cell mutagenicity

Genotoxicity - in vitro Inconclusive.

Genotoxicity - in vivo This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity CMR: no

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

Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

Reproductive toxicity - development No evidence of reproductive toxicity in animal studies. non-teratogenic, not embryotoxic

Specific target organ toxicity - single exposure

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Target organs Respiratory tract Irritation.

Specific target organ toxicity - repeated exposure

Target organs No specific target organs known.

Aspiration hazard

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

2,6-DI-TERT-BUTYL-P-CRESOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 6,000.0

Species Rat

Acute toxicity - dermal

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

Species Rat

Skin corrosion/irritation

Animal data Erythema/eschar score: No erythema (0). Not irritating.

Serious eye damage/irritation

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

Skin sensitization

Skin sensitization - Guinea pig: Not sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

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

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 100 mg/kg/day, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - LOAEL: 500 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. No information available.

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METHACRYLIC ACID

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,320.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 1,000.0

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 7.1

Species Rat

Skin corrosion/irritation

Animal data Dose: Method: OECD 404, 3 minutes, Rabbit Corrosive.

Serious eye damage/irritation

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

Respiratory sensitization

Respiratory sensitization Guinea pig: Not sensitizing. Method: various test systems

Skin sensitization

Skin sensitization Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing.

Germ cell mutagenicity

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

Carcinogenicity

Carcinogenicity CMR: no

Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

Reproductive toxicity - development Non-teratogenic, not embryotoxic

Specific target organ toxicity - single exposure

Target organs Respiratory tract Irritating.

Specific target organ toxicity - repeated exposure

Target organs No specific target organs known.

Aspiration hazard

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

12. Ecological information

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Ecotoxicity 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 methods Dispose of according to Federal, State and local governmental regulations.

14. Transport information

UN Number

UN No. (IMDG) 1133

UN No. (ICAO) 1133

UN No. (DOT) UN1133

UN proper shipping name

Proper shipping name (IMDG) ADHESIVES

Proper shipping name (ICAO) ADHESIVES

Proper shipping name (DOT) ADHESIVES

Transport hazard class(es)

DOT hazard class 3

DOT hazard label 3

IMDG Class 3

ICAO class/division 3

Transport labels



DOT transport labels



Packing group

IMDG packing group II

ICAO packing group II

DOT packing group II

Environmental hazards

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Environmentally Hazardous Substance



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)

METHYL METHACRYLATE

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None above reporting limits

SARA 313 Emission Reporting

METHYL METHACRYLATE

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

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	Flam. Liq. = Flammable liquid Skin Irrit. = Skin irritation STOT SE = Specific target organ toxicity-single exposure Eye Irrit. = Eye irritation Skin Sens. = Skin sensitisation
Revision date	7/18/2019
Revision	1

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Hazard statements in full

H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H311 Toxic 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.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.



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.