SAFETY DATA SHEET
Permabond HM162

1. Identification

Product identifier

Product name Permabond HM162

Recommended use of the chemical and restrictions on use

Application Adhesive. Sealant.

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

Pictogram

Signal word Danger

Hazard statements

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

Permabond HM162

Precautionary statements

P261 Avoid breathing vapor/ spray.
P264 Wash contaminated skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352 If on skin: Wash with plenty of water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a poison center/ doctor.
P332+P313 If skin irritation occurs: Get medical advice/ attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Contains

2-HYDROXYETHYL METHACRYLATE, ACRYLIC ACID, HYDROXYPROPYL METHACRYLATE, ETHYLENE DIMETHACRYLATE

Other hazards

None under normal conditions.

3. Composition/information on ingredients

Mixtures

2-HYDROXYETHYL METHACRYLATE **10-30%**

CAS number: 868-77-9

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2A - H319
Skin Sens. 1 - H317

ACRYLIC ACID **1-5%**

CAS number: 79-10-7

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Acute Tox. 4 - H332
Skin Corr. 1A - H314
Eye Dam. 1 - H318
STOT SE 3 - H335
Not relevant.

HYDROXYPROPYL METHACRYLATE **1-5%**

CAS number: 27813-02-1

Classification
Eye Irrit. 2A - H319
Skin Sens. 1 - H317

Permabond HM162

CUMENE HYDROPEROXIDE	<1%
CAS number: 80-15-9	

Classification
Org. Perox. E - H242
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Acute Tox. 3 - H331
Skin Corr. 1B - H314
Eye Dam. 1 - H318
STOT SE 3 - H335
STOT RE 2 - H373
Not relevant.

ETHYLENE DIMETHACRYLATE	<1%
CAS number: 97-90-5	

Classification
Skin Sens. 1 - H317
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 the exposed person to fresh air. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Get medical attention.

Ingestion Do not induce vomiting unless under the direction of medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact Wash skin thoroughly with soap and water. Take off contaminated clothing and wash before reuse. Get medical attention.

Eye contact Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention.

Most important symptoms and effects, both acute and delayed

Inhalation May cause respiratory irritation.

Ingestion May cause irritation.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

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

Permabond HM162

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

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

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 discharge into drains.

Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with sand or other inert absorbent. Collect and place in suitable waste disposal containers and seal securely.

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. Use only in well-ventilated areas. Keep container tightly sealed when not in use. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in closed original container at temperatures between 44°F and 77°F. Never return unused material to storage receptacle.

Specific end uses(s)

Usage description Adhesive. Sealant.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

ACRYLIC ACID

Long-term exposure limit (8-hour TWA): ACGIH 2 ppm 5.9 mg/m³

A4, Sk

ACGIH = American Conference of Governmental Industrial Hygienists.
A4 = Not Classifiable as a Human Carcinogen.
Sk = Danger of cutaneous absorption.

Exposure controls

Appropriate engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Eye/face protection Use safety goggles and face shield in case of splash risk.

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

Permabond HM162

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.
Respiratory protection	No specific recommendations. 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

Appearance	Liquid.
Color	Green.
Odor	Acrylic
Odor threshold	Not available.
pH	Not relevant.
Melting point	Not available.
Initial boiling point and range	Not applicable.
Flash point	>93°C (199.94°F)
Evaporation rate	Not available.
Evaporation factor	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	1.1
Bulk density	Not available.
Solubility(ies)	Slightly soluble in water. Miscible with the following materials: acetone
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	≈1000 mPa s @ 23°C
Oxidizing properties	Not available.
Other information	Not relevant.
Volatile organic compound	<2 %, 20 grams/liter (Estimated)

10. Stability and reactivity

Reactivity	Not available
Stability	Stable at normal ambient temperatures and when used as recommended.

Permabond HM162

Possibility of hazardous reactions	There are no known reactivity hazards associated with this product. Polymerization may occur at elevated temperature or in the presence of incompatible materials
Conditions to avoid	Avoid the absence of air, and metal contamination.
Materials to avoid	Metals and their salts. Free radical initiators. Strong alkalis. Strong oxidizing agents. Strong reducing agents. Alkalis.
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	Risk of serious damage to eyes.

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.
Genotoxicity - in vivo	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.
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	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	In high concentrations, vapors may irritate throat and respiratory system and cause coughing.
Ingestion	May cause irritation.

Permabond HM162

Skin Contact	Causes skin irritation . Allergic reaction are possible.
Eye contact	Risk of serious damage to eyes.
Route of exposure	Inhalation Ingestion Skin and/or eye contact
Target Organs	Eyes Skin Respiratory tract

Toxicological information on ingredients.

2-HYDROXYETHYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	5,000.0
Species	Rat
ATE oral (mg/kg)	5,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,000.0
Species	Rabbit
ATE dermal (mg/kg)	5,000.0

Acute toxicity - inhalation

Notes (inhalation LC_{50})	No information available.

Skin corrosion/irritation

Animal data	Erythema/eschar score: Very slight erythema - barely perceptible (1). Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Moderately irritating.

Respiratory sensitization

Respiratory sensitization	No information available.

Skin sensitization

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

Germ cell mutagenicity

Genotoxicity - in vitro	Conclusive data but not sufficient for classification.
Genotoxicity - in vivo	Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity	No specific test data are available.

Reproductive toxicity

Reproductive toxicity - fertility	Screening - NOAEL >=1000 mg/kg/day, Oral, Rat F1
Reproductive toxicity - development	Developmental toxicity: - NOAEL: >=1000 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

Permabond HM162

STOT - single exposure No specific test data are available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No specific test data are available.

Aspiration hazard

Aspiration hazard Not applicable.

ACRYLIC ACID

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg) 1,405.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg) 2,000.0

Species Rabbit

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} dust/mist mg/l) 3.6

Species Rat

ATE inhalation (dusts/mists mg/l) 3.6

Skin corrosion/irritation

Animal data Rabbit Highly corrosive.

Serious eye damage/irritation

Serious eye damage/irritation Rabbit Corrosive

Skin sensitization

Skin sensitization Not sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity NOAEL >=78 mg/kg/day, Oral, Rat

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

Reproductive toxicity

Reproductive toxicity - fertility - NOAEL 460 mg/l, Oral, Rat P, F1

Permabond HM162

Reproductive toxicity - development	Fetotoxicity: - NOAEC: >= 0.673 mg/l, Inhalation, 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.

HYDROXYPROPYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,000.1
Species	Rat
ATE oral (mg/kg)	2,000.1

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,000.0
Species	Rabbit

Skin corrosion/irritation

Animal data	Slightly irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Moderately irritating.

Respiratory sensitization

Respiratory sensitization	There is no evidence that the material can lead to respiratory hypersensitivity.

Skin sensitization

Skin sensitization	Epidemiological studies have shown evidence of skin sensitization.

Germ cell mutagenicity

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

12. Ecological Information

Toxicity	No data available.

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.

Permabond HM162

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

14. Transport information

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

UN Number

Not applicable.

UN No. (DOT) Not applicable.

UN proper shipping name

Not applicable.

Proper shipping name (DOT) Not applicable.

Transport hazard class(es)

No transport warning sign required.

DOT transport labels

No transport warning sign required.

Packing group

Not applicable.

DOT packing group Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

DOT reportable quantity Not applicable.

DOT TIH Zone Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

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)

ACRYLIC ACID

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

1,2-BENZISOTHIAZOL-3(2H)-ONE 1,1-DIOXIDE

Final CERCLA RQ: 100(45.4) pounds (Kilograms)

CUMENE HYDROPEROXIDE

Final CERCLA RQ: 10(4.54) pounds (Kilograms)

Permabond HM162

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None above reporting limits

SARA 313 Emission Reporting

ACRYLIC ACID
1.0 %

SARA (311/312) Hazard Categories

Acute
Chronic

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

This product contains a chemical known to the state of California to cause cancer.

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 Irrit. = Skin irritation Skin Sens. = Skin sensitisation
Revision date	1/29/2018
Revision	3
Supersedes date	5/5/2015
Hazard statements in full	H226 Flammable liquid and vapor. H242 Heating may cause a fire. H302 Harmful if swallowed. 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. H319 Causes serious eye irritation. H331 Toxic if inhaled. H332 Harmful if inhaled. H335 May cause respiratory irritation. H373 May cause damage to organs through prolonged or repeated exposure.