

# Permabond®

Engineering Adhesives



## SAFETY DATA SHEET

### Permabond UV683

chemical-concepts.com  
**800.220.1966**  
 410 Pike Road • Huntingdon Valley, PA 19006

#### 1. Identification

##### Product identifier

**Product name** Permabond UV683

##### 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 Corr. 1C - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Repr. 2 - H361f STOT SE 3 - H335

##### Label elements

##### Pictogram



##### Signal word

Danger

##### Hazard statements

H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H335 May cause respiratory irritation.  
 H361f Suspected of damaging fertility.

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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.  
 P271 Use only outdoors or in a well-ventilated area.  
 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.  
 P312 Call a poison center/ doctor if you feel unwell.  
 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.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

### Contains

ISOBORNYL ACRYLATE, TETRAHYDROFURFURYL ACRYLATE, HEXAMETHYLENE DIACRYLATE, 1,1,1-TRIMETHYLOLPROPANE TRI(3-MERCAPTOPROPIONATE, TRIS(2-HYDROXYETHYL)ISOCYANURATE TRIACRYLATE, DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE

### Other hazards

None under normal conditions.

### 3. Composition/information on ingredients

#### Mixtures

<b>URETHANE ACRYLATE OLIGOMER</b>	<b>30-60%</b>
CAS number: 73297-29-7	
<b>Classification</b>	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
<b>ISOBORNYL ACRYLATE</b>	<b>10-30%</b>
CAS number: 5888-33-5	
<b>Classification</b>	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
Skin Sens. 1 - H317	
STOT SE 3 - H335	
Not relevant.	

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<b>TETRAHYDROFURFURYL ACRYLATE</b>	<b>10-30%</b>
CAS number: 2399-48-6	
<b>Classification</b> Skin Corr. 1C - H314 Eye Irrit. 2A - H319	
<b>HEXAMETHYLENE DIACRYLATE</b>	<b>10-30%</b>
CAS number: 13048-33-4	
<b>Classification</b> Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317	
<b>1,1,1-TRIMETHYLOLPROPANE TRI(3-MERCAPTOPROPIONATE</b>	<b>5-10%</b>
CAS number: 33007-83-9	
<b>Classification</b> Acute Tox. 4 - H302 Skin Sens. 1 - H317 Not relevant.	
<b>TRIS(2-HYDROXYETHYL)ISOCYANURATE TRIACRYLATE</b>	<b>5-10%</b>
CAS number: 40220-08-4	
<b>Classification</b> Eye Dam. 1 - H318	
<b>DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE</b>	<b>1-5%</b>
CAS number: 75980-60-8	
<b>Classification</b> Skin Sens. 1B - H317 Repr. 2 - H361f Not relevant.	

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 symptoms are severe or persist.

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<b>Ingestion</b>	Do not induce vomiting unless under the direction of medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Skin Contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

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

<b>Inhalation</b>	May cause respiratory irritation.
<b>Ingestion</b>	May cause chemical burns in mouth and throat.
<b>Skin contact</b>	Chemical burns. May cause allergic skin reaction.
<b>Eye contact</b>	Causes serious eye damage.

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

<b>Notes for the doctor</b>	No specific recommendations. Treat symptomatically.
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## 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	Water spray, foam, dry powder or carbon dioxide.
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### Special hazards arising from the substance or mixture

<b>Hazardous combustion products</b>	Burning produces irritating, toxic and obnoxious fumes. Carbon monoxide, carbon dioxide, and unknown hydrocarbons.
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### Advice for firefighters

<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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## 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.
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### Environmental precautions

<b>Environmental precautions</b>	Avoid discharge into drains.
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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. Collect and place in suitable waste disposal containers and seal securely.
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<b>Reference to other sections</b>	For personal protection, see Section 8. For waste disposal, see section 13.
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## 7. Handling and storage

### Precautions for safe handling

<b>Usage precautions</b>	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.
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### Conditions for safe storage, including any incompatibilities

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**Storage precautions** Store in closed original container at temperatures between 2°C and 7°C. Protect against direct sunlight. Never return unused material to storage receptacle.

**Specific end uses(s)**

**Usage description** 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** 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.

**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**

<b>Appearance</b>	Liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Acrylic
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not relevant.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	Not applicable.
<b>Flash point</b>	>93°C (199.94°F)
<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.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	1.1
<b>Solubility(ies)</b>	Insoluble in water. Soluble in the following materials: Organic solvents.
<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition Temperature</b>	Not available.

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<b>Viscosity</b>	≈1300 mPa s @ 23°C
<b>Oxidizing properties</b>	Not available.
<b>Other information</b>	Not relevant.
<b>Volatile organic compound</b>	Not available. <2 %, 20 grams/liter (Estimated)

### 10. Stability and reactivity

<b>Reactivity</b>	The following materials may react with the product: Strong oxidizing agents.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Polymerizes when heated.
<b>Possibility of hazardous reactions</b>	Polymerization may occur at elevated temperature or in the presence of incompatible materials
<b>Conditions to avoid</b>	Do not store near heat sources or expose to high temperatures. Protect against direct sunlight.
<b>Materials to avoid</b>	Strong oxidizing agents. Strong reducing agents.
<b>Hazardous decomposition products</b>	Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

### 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>	May cause serious chemical burns to the skin.
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Risk of serious damage to eyes.
<b><u>Respiratory sensitization</u></b>	
<b>Respiratory sensitization</b>	Based on available data the classification criteria are not met.
<b><u>Skin sensitization</u></b>	
<b>Skin sensitization</b>	May cause sensitisation by skin contact.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Based on available data the classification criteria are not met.
<b>Genotoxicity - in vivo</b>	Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	No component of this product present at levels great than or equal to 0.1% is identified as a known carcinogen.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Contains a substance/a group of substances which may damage fertility.
<b><u>Specific target organ toxicity - single exposure</u></b>	

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<b>STOT - single exposure</b>	May cause respiratory irritation.
<b>Target organs</b>	Respiratory tract
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	Based on available data the classification criteria are not met.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Based on available data the classification criteria are not met.
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<b>Inhalation</b>	Irritating to respiratory system.
<b>Ingestion</b>	May cause chemical burns in mouth and throat.
<b>Skin Contact</b>	This product is strongly irritating. Prolonged contact may cause burns.
<b>Eye contact</b>	Causes serious eye damage.
<b>Acute and chronic health hazards</b>	Causes severe skin burns and eye damage. May cause skin sensitization or allergic reactions in sensitive individuals. May cause respiratory irritation.
<b>Route of exposure</b>	Inhalation Skin and/or eye contact
<b>Target Organs</b>	Eyes Skin Respiratory tract

### Toxicological information on ingredients.

#### ISOBORNYL ACRYLATE

##### Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> 5,000.0  
mg/kg)

Species Rat

ATE oral (mg/kg) 5,000.0

##### Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 3,000.0  
mg/kg)

Species Rabbit

ATE dermal (mg/kg) 3,000.0

#### HEXAMETHYLENE DIACRYLATE

##### Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> 5,000.0  
mg/kg)

Species Rat

ATE oral (mg/kg) 5,000.0

##### Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 3,650.0  
mg/kg)

Species Rabbit

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ATE dermal (mg/kg) 3,650.0

### TRIS(2-HYDROXYETHYL)ISOCYANURATE TRIACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> mg/kg) 2,500.0

Species Rat

ATE oral (mg/kg) 2,500.0

### DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE

Acute toxicity - oral

Acute toxicity oral (LD<sub>50</sub> mg/kg) 5,000.0

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> mg/kg) 2,000.1

Species Rat

ATE dermal (mg/kg) 2,000.1

## 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.

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

## 14. Transport information

UN Number

UN No. (IMDG) 1760

UN No. (ICAO) 1760

UN No. (DOT) UN1760

UN proper shipping name

CORROSIVE LIQUID, N.O.S. (contains Tetrahydrofurfuryl acrylate)

**Proper shipping name (IMDG)** CORROSIVE LIQUID, N.O.S. (contains Tetrahydrofurfuryl acrylate)

**Proper shipping name (ICAO)** CORROSIVE LIQUID, N.O.S. (contains Tetrahydrofurfuryl acrylate)



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**Proper shipping name (DOT)** CORROSIVE LIQUIDS, N.O.S. (contains Tetrahydrofurfuryl acrylate)

### Transport hazard class(es)

DOT hazard class 8  
 DOT hazard label 8  
 IMDG Class 8  
 ICAO class/division 8

### DOT transport labels



### 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

<b>Classification abbreviations and acronyms</b>	Eye Dam. = Serious eye damage Skin Corr. = Skin corrosion Skin Sens. = Skin sensitisation STOT SE = Specific target organ toxicity-single exposure Repr. = Reproductive toxicity
<b>Revision date</b>	1/31/2018
<b>Revision</b>	2
<b>Supersedes date</b>	11/1/2013
<b>Hazard statements in full</b>	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. H335 May cause respiratory irritation. H361f Suspected of damaging fertility.

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.