1. Identification of the substance / preparation and of the company / undertaking

Product information

Trade name: Protectosil® Concrete System Sealer
Company: Evonik Corporation
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone: 973-929-8000
Telefax: 973-929-8040

US: CHEMTREC EMERGENCY NUMBER: 800-424-9300
CANADA: CANUTEC EMERGENCY NUMBER: 613-996-6666
Product Regulatory Services: 973-929-8060

2. Hazards identification

*** EMERGENCY OVERVIEW ***

Form: liquid  Color: bluish  Odor: ester-like, sweet

Flammable liquid and vapor.
Vapors may cause flash fire or explosion.
May cause sensitization by skin contact.
May cause respiratory tract irritation.
May cause skin irritation.

POTENTIAL HEALTH EFFECTS

Eye contact
May cause eye irritation.

Skin Contact
May cause irritation.
May cause skin sensitization, an allergic reaction, which becomes evident on re-exposure to this material.

Inhalation
May cause irritations of the respiratory tract.

Ingestion
May be slightly toxic if ingested.
3. Composition / Information on ingredients

Information on ingredients / Hazardous components

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS-No.</th>
<th>Percent (Wt./ Wt.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate</td>
<td>80-62-6</td>
<td>60 - 100 %</td>
</tr>
<tr>
<td>acrylic polymer</td>
<td></td>
<td>10 - 30 %</td>
</tr>
<tr>
<td>methacrylic acid ester</td>
<td></td>
<td>1 - 5 %</td>
</tr>
</tbody>
</table>

Other information

NJTSR # 56705700001-7066P

This material is classified as hazardous under OSHA regulations.

4. First aid measures

Inhalation
If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If unconscious, evaluate the need for artificial respiration. Get immediate medical attention.

Skin contact
Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Obtain medical attention immediately if symptoms occur. Wash clothing before reuse.

Eye contact
Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists.

Ingestion
If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

5. Fire-fighting measures

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>10 °C, 50 °F</td>
<td>DIN 51 755</td>
<td>methyl methacrylate</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>2.1 % (V)</td>
<td>(10.5 °C)</td>
<td>methyl methacrylate</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>12.5 % (V)</td>
<td></td>
<td>methyl methacrylate</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>430 °C</td>
<td>DIN 51 794</td>
<td>methyl methacrylate</td>
</tr>
</tbody>
</table>
Suitable extinguishing media
foam, dry powder, CO₂

Extinguishing media which must not be used for safety reasons
water

Specific hazards during fire fighting
Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.
May be released in case of fire: carbon monoxide, carbon dioxide, organic products of decomposition.

Special protective equipment for fire-fighters
As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA / NIOSH approved or equivalent) and full protective gear.

Further information
Containers can build up pressure if exposed to heat (fire). Cool with water spray.

6. Accidental release measures

Personal precautions
Ensure adequate ventilation.
Wear suitable protective clothing.
Keep away from sources of ignition - No smoking.
Use respiratory apparatus where there are vapor / gas effects.

Environmental precautions
Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

Methods for cleaning up
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Additional advice
Remove sources of ignition and ventilate area.
Run off may create fire or explosion hazard in sewer.
Ensure sufficient ventilation.

7. Handling and storage

Handling

Safe handling advice
Ensure adequate ventilation.
Wear personal protective equipment; see section 8.
Vapors may spread long distances and travel to areas away from the work site before igniting or flashing back to the vapor source.

Keep away from heat, sparks, flames and other sources of ignition. Keep container tightly closed. Use only with adequate ventilation.
Advice on protection against fire and explosion
In the case of fire, cool the containers that are at risk with water or dilute with water (flooding). Use only explosion-proof equipment.
This material may have a low electrical conductivity and therefore may accumulate dangerous levels of static electricity. An ignitable vapor-air mixture can form inside storage tanks.

The user must be sure to dissipate static charge by careful bonding and grounding of all equipment and personnel involved in fluid transfer with continuity checks to prove effectiveness. Additional precautions against fire and explosion are the use of inert gas to purge vapor space; dip-pipes while filling vessels, especially lined vessels; grounded tank level floats; reduced flow velocity; self-closing valves on transfer lines and flame arrestors in vent lines.

Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

Storage
Requirements for storage areas and containers
Keep tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Component occupational exposure guidelines

- Methyl methacrylate
  
  **Control parameters**
  
  - **CAS-No.** 80-62-6
  - Time Weighted Average (TWA): (ACGIH)
  - Short Term Exposure Limit (STEL): (ACGIH)
  - Permissible Exposure Limit (PEL): (OSHA Z1)
  
  - **50 ppm**
  - **100 ppm**
  - **100 ppm**
  - **410 mg/m3**
  - **50 ppm**
  - **205 mg/m3**
  - **100 ppm**
  - **410 mg/m3**

Engineering measures
Use this product preferably in a closed system, or use process enclosures, local exhaust ventilation or other engineering controls to minimize airborne exposure.

Personal protective equipment

Respiratory protection
A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH’s “Respirator Decision Logic” may be useful in determining the suitability of various types of respirators.

Hand protection
Wear protective gloves made of the following materials:

- **Glove material** butyl-rubber
The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use.

Eye protection
safety glasses

Skin and body protection
A safety shower and eye wash fountain should be readily available.
To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

Hygiene measures
Keep working clothes separately.
Take off contaminated clothing and shoes immediately.
Observe the rules usually applicable when handling chemicals.
Cleanse and apply cream to skin after work.

9. Physical and chemical properties

Appearance

Form: liquid
Color: bluish
Odor: ester-like, sweet

Safety data

pH: not applicable
Melting point/range: -48 °C (1.013 hPa)
related to substance: methyl methacrylate
Boiling point/range: ca. 100 °C (1.013 hPa)
Method: DIN 51 751
related to substance: methyl methacrylate
Flash point: 10 °C
Method: DIN 51 755
related to substance: methyl methacrylate
Autoignition temperature: 430 °C
Method: DIN 51 794
related to substance: methyl methacrylate
Lower explosion limit: 2.1 %(V) (10.5 °C)
related to substance: methyl methacrylate
Upper explosion limit: 12.5 %(V)
related to substance: methyl methacrylate
Vapor pressure: ca. 40 hPa (20 °C)
Density: 0.97 g/cm³ (20 °C)
10. Stability and reactivity

Conditions to avoid
Keep away from heat and sources of ignition.

Materials to avoid
Peroxides, amines, sulfur compounds. heavy metal ions. alkalis, reducing agents and oxidizing agents.

Hazardous decomposition products
None known.

Hazardous reactions
Hazardous polymerization may occur when exposed to excessive heating or contaminated with incompatible materials.

Further information
This product is stable under normal storage conditions.

11. Toxicological information

Product acute oral toxicity
LD50 Rat: > 5000 mg/kg
related to substance: methyl methacrylate

Product acute inhalation toxicity
LC50 rat: 29.8 mg/l / 4 h related to substance: methyl methacrylate

Product acute dermal toxicity
LD50 Rabbit: > 5000 mg/kg
related to substance: methyl methacrylate

Product skin irritation
Rabbit irritating
related to substance: methyl methacrylate

Product eye irritation
Rabbit irritating
related to substance: methyl methacrylate

Product sensitization
guinea pig: positive and negative
related to substance: methyl methacrylate

Product repeated dose toxicity
Inhalation Rat
NOAEL: 25 mg/kg
related to substance: methyl methacrylate

Oral Rat
NOAEL: 2000 mg/kg
related to substance: methyl methacrylate

Product Mutagenicity
assessment
not mutagenic

Product Carcinogenicity
No carcinogenic effect
related to substance: methyl methacrylate

Product reproduction toxicity
assessment
May cause harm to the unborn child. (Repr. Cat. 2)
related to substance: methyl methacrylate

Product General Toxicity
Information
No results of animal experiments with the product available.

12. Ecological information

Elimination information (persistence and degradability)

Biodegradability
readily biodegradable
94 %
related to substance: methyl methacrylate

Ecotoxicity effects

Toxicity to fish
LC50 Rainbow trout: > 79 mg/l / 96 h
related to substance: methyl methacrylate

EC50 Danio rerio: 9.4 mg/l / 48 h
related to substance: methyl methacrylate

Toxicity to daphnia
EC50 Daphnia magna (Water flea): 69 mg/l / 48 h
related to substance: methyl methacrylate

NOEC Daphnia magna (Water flea): 37 mg/l / 504 h
related to substance: methyl methacrylate

Toxicity to algae
EC50 Selenastrum capricornutum (green algae): > 110 mg/l / 72 h
related to substance: methyl methacrylate

Toxicity to bacteria
Pseudomonas putida: 100 mg/l / 16 h
related to substance: methyl methacrylate

General Ecological Information
no ecotoxicological studies with the product available.

13. Disposal considerations

Waste disposal

Advice on disposal
Waste must be disposed of in accordance with federal, state, provincial and local regulations. Since empty containers retain product residue, follow MSDS and label warnings even after container is emptied. Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld
14. Transport information

D.O.T. Road/Rail

Class 3
UN-No 1866
Packing group II
Proper shipping name Resin solution

Sea transport IMDG-Code

Class 3
UN-No 1866
Packing group II
EmS F-E, S-E
Proper technical name (Proper shipping name) RESIN SOLUTION

Air transport ICAO-TI/IATA-DGR

Class 3
UN-No 1866
Packing group II
Proper technical name (Proper shipping name) Resin solution

Loading instructions / remarks

IATA_C ERG-Code 3L
IATA_P ERG-Code 3L

15. REGULATORY INFORMATION

US Federal Regulations

OSHA

If listed below, chemical specific standards apply to the product or components:

- None listed

Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- Methyl methacrylate
  CAS-No. 80-62-6

CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- Methyl methacrylate
SARA Title III Section 311/312 Hazard Categories
The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Fire Hazard
- Reactivity Hazard

SARA Title III Section 313 Reportable Substances
If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- Methyl methacrylate
  CAS-No. 80-62-6

Toxic Substances Control Act (TSCA)
If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

State Regulations

California Proposition 65
A warning under the California Drinking Water Act is required only if listed below:

- None listed
International Chemical Inventory Status

Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

- Europe (EINECS/ELINCS) Listed/registered
- USA (TSCA) Listed/registered
- Canada (DSL) Listed/registered
- Australia (AICS) Listed/registered
- Japan (MITI) Listed/registered
- Korea (TCCL) Listed/registered
- Philippines (PICCS) Not listed/Not registered
- China Listed/registered
- New Zealand Not listed/Not registered

16. OTHER INFORMATION

HMIS Ratings

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>3</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>2</td>
</tr>
</tbody>
</table>

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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