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

Methyl methacrylate			
CAS-No.	80-62-6	Percent (Wt./ Wt.)	60 - 100 %
acrylic polymer			
CAS-No.		Percent (Wt./ Wt.)	10 - 30 %
methacrylic acid ester			
CAS-No.		Percent (Wt./ Wt.)	1 - 5 %

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

Flash point	10 °C, 50 °F Method: DIN 51 755 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
Autoignition temperature	430 °C Method: DIN 51 794 related to substance: methyl methacrylate

Suitable extinguishing media

foam, dry powder, CO_2

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.

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8. Exposure controls / personal protection

Component occupational exposure guidelines

- **Methyl methacrylate**

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

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)

Method: DIN 53217

Water solubility 16 g/l (20 °C)

Partition coefficient (n-octanol/water) no data available

Viscosity, dynamic 10 mPa.s (23 °C)
Method: Brookfield method

Evaporation rate Less than 1 vs. butyl acetate

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

on or near this container.

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
Packaging 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
Packaging 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

CAS-No. 80-62-6
Reportable Quantity 1429 lbs

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

Health:	2
Flammability:	3
Physical Hazard:	2

Further information

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

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Legend

ACC	American Chemistry Council
ACGIH	American Conference of Governmental Industrial Hygienists
ACS	Advisory Committee on Sustainability
ADI	Acceptable Daily Intake
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BOD	Biochemical oxygen demand
c.c.	closed cup
CAO	Cargo Aircraft Only
Carc	Carcinogen
CAS	Chemical Abstract Services
CDN	Canada
C EPA	Canadian Environmental Protection Act
CERCLA	Comprehensive Environmental Response – Compensation and Liability Act
CFR	Code of Federal Regulations
CMR	carcinogenic- mutagenic-toxic for reproduction
COD	Chemical oxygen demand
DIN	German Institute for Standardization
DM EL	Derived minimum effect level
DNEL	Derived no effect level
DOT	Department of Transportation
EC50	half maximal effective concentration
EPA	Environmental Protection Agency
ErC50	Reduction of Growth Rate
ERG	Emergency Response Guide Book
FDA	Food and Drug Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
HCS	Hazard Communication Standard
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO-TI	International Civil Aviation Organization- Technical Instructions
ICCA	International Council of Chemical Association
ID	Identification number
IMDG	International Maritime Dangerous Goods
IUPAC	International Union of Pure and Applied Chemistry
ISO	International Organization for Standardization
LC50	50 % Lethal Concentration
LD50	50 % Lethal Dose
L(E)C 50	LC50 or EC50

LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organization for Economic Cooperation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
RQ	Reportable Quantity
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
UN	United Nations
vPvB	very persistent, very bioaccumulative
VOC	Volatile organic compounds
WHMIS	Workplace Hazardous Materials Information System
WHO	World Health Organization