1. Identification

1.1. Product identifier

Trade name: Protectosil® AQUA-TRETE CONCENTRATE

Chemical Name: Protectosil® AQUA-TRETE CONCENTRATE

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified: For industrial use

1.3. Details of the supplier of the safety data sheet

Company: Evonik Corporation
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone: 973-929-8000

Telefax: 973-929-8040

Email address: Product-Regulatory-Services@evonik.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:

CHEMTREC - US & CANADA: 800-424-9300

CHEMTREC MEXICO: 01-800-681-9531

CHEMTREC INTERNATIONAL: +1 703-527-3887 (collect calls accepted)

Product Regulatory Services: 973-929-8060

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation 29CFR 1910.1200

Flammable liquids: Category 3 H226

Skin irritation: Category 2 H315

2.2. Label elements

Statutory basis: Classification according to Regulation 29CFR 1910.1200

hazard-defining component(s) (GHS)

- Trimethoxypropylsilane

Symbol(s):
**SAFETY DATA SHEET**

**Protectosil® AQUA-TRETE CONCENTRATE**

Material no.  141211
Specification  
Order number  

Version 4.0 / US
Revision date 05/08/2015
Print date 09/16/2015
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**Signal word**  
Warning

**Hazard statement**  
H226 - Flammable liquid and vapor.  
H315 - Causes skin irritation.

**Precautionary statement:**  
**Prevention**  
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground/bond container and receiving equipment.  
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P264 - Wash skin thoroughly after handling.  
P280 - Wear protective gloves/ eye protection/ face protection.

**Precautionary statement:**  
**Reaction**  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P332 + P313 - If skin irritation occurs: Get medical advice/ attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P370 + P378 - In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

**Precautionary statement:**  
**Storage**  
P403 + P235 - Store in a well-ventilated place. Keep cool.

**Precautionary statement:**  
**Disposal**  
P501 - Dispose of contents/ container to an approved waste disposal plant.

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2.3. **Other hazards**

None known.

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3. **Composition/information on ingredients**

- **NJTSR No.56705700001-5374P**  
  $\geq 60\%$ - $\leq 100\%

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Trade Secret</th>
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<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin irritation</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

- **Methanol**  
  $\geq 0.1\%$ - $< 1\%$

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>67-56-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute toxicity (Oral)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute toxicity (Inhalation)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute toxicity (Dermal)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

---

4. **First aid measures**

4.1. **Description of 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**

Flush skin with plenty of water. Remove contaminated clothing. Obtain medical attention if irritation develops or persists.
Eye contact
In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

Ingestion
If swallowed, get medical attention immediately. Only induce vomiting if directed by a physician. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms
None known
Hazards
None known

4.3. Indication of any immediate medical attention and special treatment needed
After absorbing large amounts of substance: Administration of activated charcoal: Acceleration of gastrointestinal passage.

5. Fire-fighting measures
5.1. Extinguishing media
Suitable extinguishing media: Use water spray or fog, foam, dry chemical or CO2.
Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture
Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.

5.3. Advice for fire fighters
Containers can build up pressure if exposed to heat (fire). Cool with water spray. As in any fire, wear self-contained, pressure-demand breathing apparatus (MSHA-NIOSH approved or equivalent) and full protective gear.
As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation.

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

6.3. Methods and material for containment and cleaning up
Contain spillage, and then collect 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.
Assure sufficient ventilation.

7. Handling and storage
7.1. Precautions for safe handling
Keep away from heat. Keep away from sparks, flames and other sources of ignition. Avoid contact with eyes, skin and clothing. A void breathing vapor or mist. Use with adequate ventilation. Ground and bond containers when transferring material. Use explosion-proof equipment. Follow all MSDS/label precautions even after the container is emptied because it may retain product residues. Wash thoroughly after handling. Vapors may spread long distances and travel to areas away from the work site before igniting or flashing back to the vapor source.

Use non-sparking equipment when the level of vapors and/or mists can exceed the explosive limit, especially in areas with poor ventilation. Wear personal protective equipment; see section 8.

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

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.

Additional guidance on fire and explosion protection may be found in various consensus standards, including NFPA 30, 69 and 77 and API 2003 as well as OSHA regulation 29CFR1910.106.

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

Storage

Keep containers tightly closed in a cool, well-ventilated place. Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container.

8. Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Methanol</th>
<th>Time Weighted Average (TWA): (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>200 ppm</td>
<td>Control parameters 250 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control parameters 200 ppm 260 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control parameters 200 ppm 260 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control parameters 1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control parameters 250 ppm 325 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control parameters 200 ppm 260 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control parameters 250 ppm 325 mg/m3</td>
</tr>
</tbody>
</table>

Can be absorbed through the skin.

Permissible exposure limit: (OSHA Z1)

Time Weighted Average (TWA) Permissible Exposure Limit (PEL): (US CA OEL)

Ceiling Limit Value: (US CA OEL)

Short Term Exposure Limit (STEL): (US CA OEL)

Skin designation: (US CA OEL)

Skin designation: (US CA OEL)

Time Weighted Average (TWA): (TN OEL)

Short Term Exposure Limit (STEL): (TN OEL)

Skin designation: (TN OEL)
8.2. Exposure controls

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
Use impermeable gloves.

Eye protection
Use chemical splash goggles or face shield.

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.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>clear</td>
</tr>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>aromatic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>not determined</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>no data available</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>137 ºC</td>
</tr>
<tr>
<td>Flash point</td>
<td>33.89 ºC</td>
</tr>
<tr>
<td>Method</td>
<td>Pensky-Martens C.C.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>not applicable</td>
</tr>
</tbody>
</table>
Relative density 0.93
Water solubility negligible reacts slowly with water
Partition coefficient: n-octanol/water no data available
Autoignition temperature no data available
Thermal decomposition no data available
Viscosity, dynamic no data available
Viscosity, kinematic no data available

9.2. Other information
Explosiveness Vapors can form explosive mixtures with air.
% VOC (gm/l) 50

10. Stability and reactivity
10.1. Reactivity
No dangerous reaction known under conditions of normal use.
10.2. Chemical stability
Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions
Possibility of hazardous reactions No dangerous reactions known.
10.4. Conditions to avoid
A void high temperatures and sources of ignition.
10.5. Incompatible materials
A void contact with acids and oxidizing agents., Water
10.6. Hazardous decomposition products
Silicone polymers., Methanol in case of hydrolysis.
Stable under normal conditions.
Product will not undergo hazardous polymerization.

11. Toxicological information
11.1. Information on toxicological effects

Toxicological information on components Trimethoxypropylsilane
Acute oral toxicity LD50 Rat: > 5170 mg/kg
Method: OECD Test Guideline 401
Acute inhalation toxicity LC50 Rat: 22.2 mg/l / 4 h / dust/mist
SAFETY DATA SHEET
Protectosil® AQUA-TRETE CONCENTRATE

Method: OECD Test Guideline 403

Acute dermal toxicity

No data available

Skin irritation

Rabbit
Skin irritation
Method: OECD Test Guideline 404

Eye irritation

Rabbit
No eye irritation
Method: OECD Test Guideline 405

Sensitization

Buehler Test guinea pig: Does not cause skin sensitization.
Method: OECD Test Guideline 406

Repeated dose toxicity

Oral Rat (male and female)
Number of exposures: 7 days a week
NOAEL: 60.5 mg/kg
Method: OECD TG 422
Test substance: Structurally similar substance
Molecular Weight corrected

Assessment of STOT single exposure
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Assessment of STOT repeat exposure
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Risk of aspiration toxicity

No aspiration toxicity classification

Genotoxicity in vitro

Ames test Salmonella typhimurium
negative
Method: OECD TG 471

gene mutation Chinese hamster (CHO K1 -cells)
negative
Method: OECD TG 476
Test substance: Structurally similar substance

chromosomal aberration
negative
Method: OECD TG 473
Test substance: Structurally similar substance

Genotoxicity in vivo

Micronucleus test Mouse Oral
negative
Method: OECD TG 474
Test substance: Structurally similar substance

Carcinogenicity

No evidence that cancer may be caused.

Toxicity to reproduction

1 generation Oral Rat
Number of exposures: daily
NOAEL (No Observed Adverse Effect Level) of 750 mg/kg
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parents:
NOAEL F1: 750 mg/kg
Method: OECD Test Guideline 415
Test substance: Structurally similar substance
Molecular Weight corrected

Prenatal development toxicity study Oral Rat
Number of exposures: daily
NOAEL (No Observed Adverse Effect Level) of parents:
NOAEL F1: 750 mg/kg
Method: OECD TG 414
Test substance: Structurally similar substance
Molecular Weight corrected

Screening for reproductive/developmental toxicity Oral Rat
Number of exposures: daily
NOAEL (No Observed Adverse Effect Level) of parents:
NOAEL F1: 1210 mg/kg
Method: OECD TG 422
Test substance: Structurally similar substance
Molecular Weight corrected

12. Ecological information

12.1. Toxicity
Toxicity to fish no data available

12.2. Persistence and degradability
Biodegradability no data available

12.3. Bioaccumulative potential
Bioaccumulation no data available

12.4. Mobility in soil
Mobility No data available

12.5. Other adverse effects
Further Information No ecotoxicological studies are available.

13. Disposal considerations

13.1. Waste treatment methods
Product

Waste must be disposed of in accordance with federal, provincial, state and local regulations. Empty containers must be handled with care due to product residue. DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GAS TORCH.

Uncleaned packaging

Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information

D.O.T. Road/Rail

14.1. UN number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (alkyl silane, contains methanol)
14.3. Transport hazard class(es): 3
14.4. Packing group: III
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: No

Air transport ICAO-TI/IATA-DGR

14.1. UN number: UN 1993
14.2. UN proper shipping name: Flammable liquid, N.O.S. (alkyl silane, contains methanol)
14.3. Transport hazard class(es): 3
14.4. Packing group: III
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes

IATA-C: ERG-Code 3L
Maximum Net Quantity per Package 220 L

IATA-P: ERG-Code 3L
Maximum Net Quantity per Package 60 L

Sea transport IMDG-Code/GGVSee (Germany)

14.1. UN number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (alkyl silane, contains methanol)
14.3. Transport hazard class(es): 3
14.4. Packing group: III
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: No

EmS: F-E,S-E

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: for transport approval see regulatory information

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:

- Methanol
  CAS-No. 67-56-1

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

None listed

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

- Fire Hazard
- Acute Health 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:

None listed

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
The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in section 2 and 15 of this MSDS.

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

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

- Methanol
  CAS-No. 67-56-1

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.
HMIS Ratings

Health : 1
Flammability : 3
Physical Hazard : 1

NFPA Ratings

Health : 1
Flammability : 3
Reactivity : 1

16. Other information

Further information

Revision date 05/08/2015

Changes since the last version are highlighted in the margin. This version replaces all previous versions. This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.
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<th>Material no.</th>
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<th>Specification</th>
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<th>Revision date</th>
<th>Print date</th>
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<td></td>
<td>05/08/2015</td>
<td>09/16/2015</td>
<td>13 10 / 13</td>
</tr>
</tbody>
</table>

VOC: Volatile organic compounds
WHMIS: Workplace Hazardous Materials Information System
WHO: World Health Organization