1. Identification

1.1. Product identifier

Trade name Protectosil® 300

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified For industrial use
Function Surface modifier Raw material

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 4 H227
Skin irritation Category 2 H315
Acute aquatic toxicity Category 3 H402

2.2. Label elements

Statutory basis Classification according to Regulation 29CFR 1910.1200
symbol(s)
### 2.3. Other hazards
None known.

### 3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutyltriethoxysilane</td>
<td>&gt;= 60% - &lt;= 100%</td>
</tr>
<tr>
<td>CAS-No. 17980-47-1</td>
<td></td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysiloxane, containing propyl- and ethoxy groups</td>
<td>&gt;= 20% - &lt;= 40%</td>
</tr>
</tbody>
</table>

Remarks: Not a hazardous substance or mixture.

### 4. First aid measures

#### 4.1. Description of first aid measures

**General advice**
Remove contaminated or saturated clothing immediately and dispose of safely.

**Inhalation**
If aerosol or mists are formed: Take affected persons out into the fresh air. If symptoms persist, consult a physician for treatment.

**Skin contact**
 Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Obtain medical attention. Wash clothing before reuse. Destroy or thoroughly clean contaminated shoes before reuse.
Eye contact
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes or until all material has been removed. Obtain medical attention.

Ingestion
If swallowed and conscious, rinse out mouth with water. Have patient drink plenty of water in small sips immediately for dilution. Call a physician immediately.

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

4.3. Indication of any immediate medical attention and special treatment needed
None known.

5. Fire-fighting measures
5.1. Extinguishing media
Suitable extinguishing media: Use water spray or fog, foam, dry chemical or CO2.
Unsuitable extinguishing media: High volume water jet.

5.2. Special hazards arising from the substance or mixture
Combustible 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 firefighters
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. Use personal protective equipment.

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
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.
Avoid moisture. Keep away from heat. Keep away from sparks, flames and other sources of ignition. A void contact with eyes, skin and clothing. A void breathing vapor or mist. Use with adequate ventilation. The need for grounding and bonding of containers in accordance with OSHA 29 CFR 1910.106 and NFPA 77 should be assessed for all product transfers. Follow all MSDS/label precautions even after the container is emptied because it may retain product residues. Wash thoroughly after handling.

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. Protect from moisture.

8. Exposure controls / personal protection

8.1. Control parameters

Other information
Contains no substances with occupational exposure limit values.

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
Glove material for example, butyl-rubber
Material thickness 0.5 mm
Break through time >= 480 min
Glove material for example, Fluorinated rubber (Viton)
Material thickness 0.4 mm
Break through time >= 480 min
Use impermeable gloves.
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.
Selection of protective gloves to meet the requirements of specific workplaces.
Suitability for specific workplaces should be clarified with protective glove manufacturers.

**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.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Do not inhale vapors or aerosols. Do not eat, drink, or smoke when using the product. Remove contaminated or saturated clothing.

### 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>colorless</td>
</tr>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</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/freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>no data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>66 °C</td>
</tr>
<tr>
<td>Method</td>
<td>DIN 51758</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>no data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>ca. 0.94 g/cm³</td>
</tr>
<tr>
<td>Solubility/qualitative</td>
<td>no data available</td>
</tr>
</tbody>
</table>

9.1. Information on basic physical and chemical properties
Partition coefficient: n-octanol/water
Autoignition temperature
Thermal decomposition
Viscosity, dynamic
Viscosity, kinematic

9.2. Other information
Explosiveness
Vapors can form explosive mixtures with air.

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
Keep away from heat and sources of ignition.

10.5. Incompatible materials
Water

10.6. Hazardous decomposition products
No data available
This product is not stable under normal storage conditions. Product will not undergo hazardous polymerization.

11. Toxicological information
11.1. Information on toxicological effects
Acute oral toxicity
LD50 Rat: > 5000 mg/kg
Related to substance: triethoxyisobutylsilane

Acute inhalation toxicity
Acute toxicity estimate: 8.4 mg/l / 4 h / dust/mist
Method: Calculation method

Skin irritation
Irritating to skin.
Method: OECD Test Guideline 405
Related to substance: triethoxyisobutylsilane

Eye irritation
Not irritating.
Method: OECD Test Guideline 405
Related to substance: triethoxyisobutylsilane
### Toxicological information on components

#### 12. Ecological information

**12.1. Toxicity**

*no data available*

**12.2. Persistence and degradability**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>Result</td>
<td>12% Not readily biodegradable</td>
</tr>
<tr>
<td>Method</td>
<td>OECD 301 C</td>
</tr>
</tbody>
</table>

**12.3. Bioaccumulative potential**

*no data available*

**12.4. Mobility in soil**

*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, 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.

**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: Combustible liquid, n.o.s. (Triethoxyisobutylsilane)
14.3. Transport hazard class(es): C
14.4. Packing group: III
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: Yes
   ROAD: Not regulated in packages 450 liter or less.
   (CFR)
   RAIL: Not regulated in packages 450 liter or less.
   (CFR)

Air transport ICAO-TI/IATA-DGR
Not dangerous according to transport regulations.

14.1. UN number: --
14.2. UN proper shipping name: --
14.3. Transport hazard class(es): --
14.4. Packing group: --
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes
   IATA-C: Not hazardous freight in air traffic (ICAO-TI / IATA-DGR).
   IATA-P: Not hazardous freight in air traffic (ICAO-TI / IATA-DGR).

Sea transport IMDG-Code/GGVSee (Germany)
Not dangerous according to transport regulations.

14.1. UN number: --
14.2. UN proper shipping name: --
14.3. Transport hazard class(es): --
14.4. Packing group: --
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: Yes
   Not classified as hazardous sea cargo (IMDG code)
   FOR USA ONLY: In packagings exceeding 450 L, this product must be classified, placarded, marked and shipped as Combustible Liquid to the USA.

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:

- None listed

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 I II 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:

- None listed

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

<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>2</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>1</td>
</tr>
</tbody>
</table>
NFPA Ratings

Health: 2
Flammability: 2
Reactivity: 1

16. Other information

Further information

Revision date 05/31/2015

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

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SAFETY DATA SHEET
Protectosil® 300

Material no. Specification Order number
300 158778

Version Revision date Print date Page
6.1 / US 05/31/2015 09/16/2015 11 10 / 12

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
CEPA 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
LOA EL 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
<table>
<thead>
<tr>
<th>SAFETY DATA SHEET</th>
<th>Protectosil® 300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material no.</td>
<td>Version</td>
</tr>
<tr>
<td>Specification</td>
<td>Revision date</td>
</tr>
<tr>
<td>Order number</td>
<td>Print date</td>
</tr>
<tr>
<td></td>
<td>Page</td>
</tr>
</tbody>
</table>

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