

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: Protectosil® 100

Chemical name:

Trimethoxy(2-methylpropyl)silane

Other means of identification

CAS Number: 18395-30-7

Recommended restrictions

Recommended use: For industrial use Hydro- and oleophobicizing agent

Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Corporation
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USA

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Emergency telephone number:

24-Hour Health : +1 800 424 9300 (CHEMTREC - US & CANADA)

Emergency : +1 800 681 9531 (CHEMTREC MEXICO)

+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 3

Health Hazards

Skin irritation Category 2

Specific Target Organ Toxicity -
Single Exposure Category 3¹

Target Organs

1. Central nervous system.

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: Flammable liquid and vapor.
Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/...] equipment. Use non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
Trimethoxy(2-methylpropyl)silane

Substances

Chemical Identity	CAS number	Content in percent (%) [*]
Trimethoxy(2-methylpropyl)silane	18395-30-7	>=90 - <=100%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information:	Take off all contaminated clothing immediately.
Inhalation:	If aerosol or mists are formed: Move victims into fresh air. In case of persistent discomfort: Consult doctor immediately.
Skin Contact:	Wash off immediately with plenty of water. Consult a doctor in the event of permanent skin irritation.
Eye contact:	Keeping eyelid open, immediately rinse thoroughly for at least 5 minutes using plenty of water or, if necessary, eye rinsing solution. In case of persistent discomfort: Consult an ophthalmologist.
Ingestion:	Have the mouth rinsed with water. Call a physician immediately.
Personal Protection for First-aid Responders:	As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

Most important symptoms/effects, acute and delayed

Symptoms: If large amount of substance is absorbed, liberation of reaction product (methanol) can lead to symptoms of poisoning. Possible signs of poisoning include daze, dizziness, nausea, colicky abdominal pain or respiratory disturbance. Symptoms of increasing intoxication include dysopia or loss of eyesight. Treatment may include immediate gastric lavage, antidote treatment or correction of acid-base balance. Detection of the substance (methanol) is possible in blood. Evidence shows that the treatment of methanol absorption is enhanced through the administration of ethanol, which should be given to produce a blood level of at least 0.1%. Ethanol diminishes the production of toxic metabolites of methanol. Obtain treatment of allergic reaction if necessary.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: None known.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Water. High volume water jet

Specific hazards arising from the chemical: Standard procedure for chemical fires. Combustible liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Containers can build up pressure if exposed to heat (fire). Cool with water spray.

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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Keep away from heat and sources of ignition.
Accidental release measures:	Remove sources of ignition and ventilate area. Run off may create fire or explosion hazard in sewer. Assure sufficient ventilation.
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).
Environmental Precautions:	Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):	Use this product preferably in a closed system, or use process enclosures, local exhaust ventilation or other engineering controls to minimize airborne exposure.
Safe handling advice:	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.
Contact avoidance measures:	No data available.
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.

Storage

Safe storage conditions:	<p>Take precautionary measures against static charges, keep away from sources of ignition. Explosion protection equipment required. Danger of explosion from residual product fumes; therefore avoid spark production through cutting, grinding, or welding work in the area of the container. When repairs of the production system are to be made (e.g. welding work), the section to be repaired must be essentially free of product. 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.</p> <p>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.</p> <p>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.</p> <p>Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture. Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container.</p>
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.
 Hazardous components without workplace control parameters

Appropriate Engineering Controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection: Use chemical splash goggles or face shield.

Skin Protection

Hand Protection:

Material: Nitrile rubber/Nitrile latex (NBR)
 Break-through time: \geq 480 min
 Material: Fluorinated rubber (FKM)
 Break-through time: \geq 480 min
 Guideline: Source: GESTIS substance database (hazardous substance information system of commercial professional associations) Additional Information: 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., Use impermeable gloves.

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.

- 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.
- 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

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Fruity
Odor Threshold:	not determined
pH:	not determined
Freezing point:	< -180 °C (OECD TG 102)
Boiling Point:	150 °C (1,013 hPa) (DIN 51 751)
Flash Point:	39 °C (DIN EN ISO 13736)
Evaporation Rate:	not determined
Flammability (solid, gas):	No data available.

Explosive limit - upper (%):	not determined
Explosive limit - lower (%):	not determined
Vapor pressure:	approx. 3 hPa (20 °C)
Vapor density (air=1):	No data available.
Density:	0.93 g/cm ³ (20 °C) (DIN 51757)
Relative density:	No data available.
Solubility(ies)	
Solubility in Water:	Not miscible. Decomposition by hydrolysis.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	2.1 (QSAR)
Self Ignition Temperature:	267 °C (ASTM E 659)
Decomposition Temperature:	not determined
Kinematic viscosity:	No data available.
Dynamic viscosity:	0.8 mPa.s (20 °C, DIN 53 015)
Other information	
Explosive properties:	Vapors can form explosive mixtures with air. not explosive
Oxidizing properties:	No data available.
Minimum ignition temperature:	not determined

10. Stability and reactivity

- Reactivity:** No dangerous reaction known under conditions of normal use.
- Chemical Stability:** Stable under recommended storage conditions.

Possibility of hazardous reactions:	Reacts with water.
Conditions to avoid:	Vapours can form explosive mixtures with air. Keep away from heat and sources of ignition.
Incompatible Materials:	Water. atmospheric humidity
Hazardous Decomposition Products:	Methanol in case of hydrolysis. Alcohol formed by hydrolysis lowers the flash point of the product.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): > 2,000 mg/kg
Dermal	
Product:	No data available.
Inhalation	
Product:	LC 50 (Rat): 11 mg/l Dusts, mists and fumes

Repeated dose toxicity

Product:	NOAEL (Rat, Oral): \geq 1,000 mg/kg tested substance: Structurally similar substance NOAEC (Rat, Inhalation - vapor): \geq 2540 mg/m ³
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Skin Corrosion/Irritation

Product:	Skin irritation OECD Test Guideline 404 (Rabbit): Skin irritation
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Serious Eye Damage/Eye Irritation

Product:	Not irritating Rabbit: Not irritating
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Respiratory or Skin Sensitization

Product:	Buehler Test, OECD Test Guideline 406 (Guinea Pig): Not a skin sensitizer.
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Carcinogenicity

Product: Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity**In vitro**

Product: Ames test (OECD TG 471): negative
Chromosomal aberration (OECD TG 473): negative tested substance:
Structurally similar substance
gene mutation (OECD TG 476): negative tested substance: Structurally
similar substance

In vivo

Product: Micronucleus test (OECD TG 474) Oral (Mouse): negative tested substance:
Structurally similar substance

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: Narcotic effect.

Specific Target Organ Toxicity - Repeated Exposure

Product: no evidence for hazardous properties

Aspiration Hazard

Product: No evidence of aspiration toxicity

Other effects: No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**

Product: LC 50 (Brachydanio rerio, 96 h): > 100 mg/l

Aquatic Invertebrates

Product: EC 50 (Daphnia magna, 48 h): > 865 mg/l

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 1,170 mg/l
 NOEC (Desmodesmus subspicatus (green algae), 72 h): 221 mg/l

Persistence and Degradability

Biodegradation

Product: 47 %

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: low

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 2.1 20 °C (QSAR)

Mobility in soil:

Adsorption on the floor: low.

Other adverse effects:

The data we have at our disposal do not necessitate identification concerning environmental hazard.

13. Disposal considerations

Disposal methods:

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.

Contaminated Packaging:

Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities. If there is product residue in the emptied container, follow directions for handling on the container's label. Incorrect disposal or reuse of this container is illegal and can be dangerous. Other countries: observe the national regulations.

14. Transport information

Domestic regulation

49 CFR

UN/ID/NA number : UN 1993

Proper shipping name : Flammable liquids, n.o.s.
 (trimethoxy(2-methylpropyl)silane)

Class : 3
Packing group : III
Labels : 3
ERG Code : 128
Marine pollutant : no
Remarks : In the U.S. this material may be classified as combustible liquid. Combustible liquids are not regulated in packages 450 liters or less. This applies for shipments by road and rail only.

International Regulations

IATA-DGR

UN/ID No. : UN 1993
Proper shipping name : Flammable liquid, n.o.s.
(trimethoxy(2-methylpropyl)silane)
Class : 3
Packing group : III
Labels : 3
Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355
Remarks : Maximum Net Quantity per Package 220 L

IMDG-Code

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(trimethoxy(2-methylpropyl)silane)
Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Flammable (gases, aerosols, liquids, or solids), Skin Corrosion or Irritation, Specific target organ toxicity (single or repeated exposure)

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

SARA 311/312 Hazardous Chemical

Chemical Identity

Threshold Planning Quantity

None present or none present in regulated quantities.

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

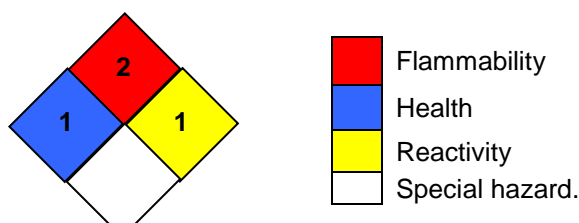
US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

16. Other information, including date of preparation or last revision
HMIS Hazard ID

Health	2
Flammability	2
Physical Hazards	1
PERSONAL PROTECTION	

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID


Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

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Further Information: No data available.

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

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