SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: Protectosil® 100 N

Other means of identification
CAS Number: 17980-47-1

Recommended restrictions
Recommended use: For industrial use
Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name	:	Evonik Corporation 299 Jefferson Road Parsippany, NJ 07054 USA
Telephone	:	+1 973 929 8000
Fax	:	+1 973 929 8040
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 4

Health Hazards

Skin Corrosion/Irritation	Category 2

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Label Elements

Hazard Symbol:

Signal Word: Warning

Hazard Statement:

Combustible liquid.
Causes skin irritation.
Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid release to the environment.

Response: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Specific treatment (see on this label). Take off contaminated clothing. 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 cool.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

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

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Isobutyltriethoxysilane		17980-47-1	<=100%

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

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information: Remove contaminated or saturated clothing immediately and dispose of safely.

Inhalation:	If aerosol or mists are inhaled, take affected persons out into the fresh air. Possible discomforts include severe irritation of mucus lining (nose, throat, eyes), cough, sneezing and flow of tears. In case of persistent discomfort, obtain medical attention immediately.
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:	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:	If swallowed, rinse mouth with water (only if the person is conscious). 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:	None known.
Hazards:	None known.

Indication of immediate medical attention and special treatment needed

Treatment:	If required, therapy of irritative effect. After absorbing large amounts of substance: administration of activated charcoal. Acceleration of gastrointestinal passage

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Water spray, fog, CO2, dry chemical, or alcohol resistant foam.
Unsuitable extinguishing media:	High volume water jet.
Specific hazards arising from the chemical:	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.
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:	Ensure adequate ventilation. Use personal protective equipment.
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):	Provide adequate ventilation.
Safe handling advice:	Use in the open air or with adequate ventilation.Wear personal protective equipment; see section 8. Keep away from heat, sparks, flames and other sources of ignition. Keep container tightly closed. Use only with adequate ventilation. Vapors may spread long distances and travel to areas away from the work site before igniting or flashing back to the vapor source.
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:	The product has an intermediate conductivity (static conductivity 100-10,000 pS/m) Liquids with a low conductivity (static conductivity < 100 pS/m) or intermediate conductivities (static conductivity 100 pS/m - 10,000 pS/m) might become electrostatically charged and thus present potential sources ignition. Germany: Technical Rules for Hazardous Substances - Prevention of the Risk of Ignition as a Result of Electrostatic Charges EU: NFPA 77, Recommended Practice on Static Electricity Take precautionary measures against static charges, keep away from sources of ignition.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 SDS/label precautions even after container is emptied because it may retain product residues.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.
Safe packaging materials:	No data available.
Storage Temperature:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls	Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

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

Skin Protection

Hand Protection:	Material: Polychloroprene (PCP) Break-through time: >= 480 min Material: Fluorinated rubber (FKM) Break-through time: >= 480 min Guideline: Source: GESTIS substance database (hazardous substance information system of commercial professional associations)Additional Information: 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.
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.

9. Physical and chemical properties

Appearance	
Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	solvent-like
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	< -72 °C (OECD 102)
Boiling Point:	Approximate 186 °C (1,013 hPa) (DIN 51751)
Flash Point:	63 °C (DIN EN ISO 2719 (Pensky-Martens, Closed Cup))
Evaporation Rate:	No data available.
Flammability (solid, gas):	not flammable
Explosive limit - upper:	(DIN 51649) 8.47 %(V)
Explosive limit - lower:	(DIN 51649) 0.39 %(V)
Vapor pressure:	33 Pa (20 °C) (OECD 104) dynamic method 49 Pa (25 °C) (OECD 104) dynamic method
Relative vapor density:	No data available.
Density:	Approximate 0.88 g/cm3 (20 °C) (DIN 51757)
Relative density:	0.88 (20 °C) (OECD 109)
Solubility in Water:	Not miscible. Decomposition by hydrolysis.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	2.033 Measured > 2.03 literature
Self Ignition Temperature:	240 °C (DIN 51 794)

Decomposition Temperature:	No data available.
Kinematic viscosity:	1.4 mm2/s (20 °C, QSAR)
Dynamic viscosity:	No data available.

Other information

Explosive properties:	Vapors can form explosive mixtures with air.
Oxidizing properties:	Not to be expected in view of the structure
Minimum ignition temperature:	Not determined.
Metal Corrosion:	Not to be expected in view of the structure

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:	No dangerous reactions known.
Conditions to avoid:	In the presence of oxygen and heat, the ethanol forming during the reaction may produce acetaldehyde. Material may form acetaldehyde when heated with inorganic pigments in the presence of air. Avoid high temperatures and sources of ignition.
Incompatible Materials:	Water.
Hazardous Decomposition Products:	Ethanol 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): > 5,000 mg/kg

Dermal
Product: LD 50 (Rat): > 2,000 mg/kg

Inhalation
Product: LC 50 (Rat): 5.88 mg/l Dusts, mists and fumes

Repeated dose toxicity
Product: NOAEL (Rat, Oral): > 1,000 mg/kg

Skin Corrosion/Irritation
Product: Irritating. OECD 404 (Rabbit): Irritating.

Serious Eye Damage/Eye Irritation
Product: Not irritating Rabbit: Not irritating

Respiratory or Skin Sensitization
Product: Maximization Test, OECD 406 (Guinea Pig): Not a skin sensitizer.

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), as amended:
No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro
Product: Ames test (OECD 471): negative
Chromosomal aberration (OECD 473): negative
Chromosomal aberration (OECD 476): negative

In vivo
Product: Chromosomal aberration (OECD 474) Oral (Mouse, male and female): negative

Reproductive toxicity
Product: No data available.

Components:
Isobutyltriethoxysilane Animal testing did not show any effects on fertility.

Specific Target Organ Toxicity - Single Exposure
Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Repeated Exposure
Product: Based on available data, the classification criteria are not met.

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 (Oncorhynchus mykiss, 96 h): 85 mg/l (literature value)

Aquatic Invertebrates
Product: EC 50 (Daphnia magna, 48 h): > 49.1 mg/l

Toxicity to Aquatic Plants
Product: No data available.

Specified substance(s):
Isobutyltriethoxysilane No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: NOEC (Desmodesmus subspicatus (green algae), 72 h): >= 36 mg/l (OECD 201)

Specified substance(s):
Isobutyltriethoxysilane NOEC (Desmodesmus subspicatus (green algae), 72 h): >= 36 mg/l (OECD 201)

Persistence and Degradability

Biodegradation
Product: 75 % (28 d, OECD 301 D)

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: not bioaccumulative

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: 2.033 Measured
Log Kow: > 2.03 literature

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: With respect to local regulations, e.g. dispose of to suitable waste incineration plant. 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.

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	:	NA 1993
Proper shipping name	:	Combustible liquid, n.o.s.
Class	:	CBL
Packing group	:	III
Labels	:	NONE
ERG Code	:	128
Marine pollutant	:	no
Remarks	:	Not regulated in packages 450 liter or less.

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

Remarks : Not hazardous freight in air traffic (ICAO-TI / IATA-DGR).

IMDG-Code

Not regulated as a dangerous good

Remarks : 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.

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), as amended
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

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances
None present or none present in regulated quantities.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required
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.

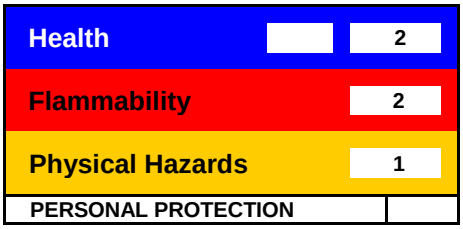
US. Massachusetts RTK - Substance List
No ingredient regulated by MA Right-to-Know Law present.

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.

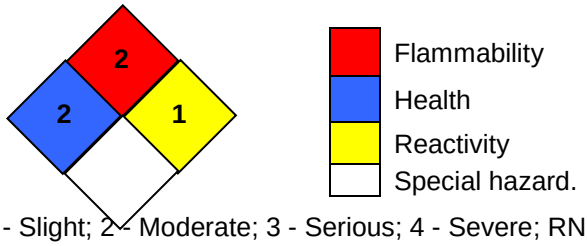
16.Other information, including date of preparation or last revision

HMIS Hazard ID



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