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Revision Date
May 2020

Section 1: Product Identification

Product Type: Concrete Sealer

Product Name:

ProSpec® 20% Silane Sealer

Section 2: Hazard Identification

Hazard Risk Classification

This product has been evaluated according to Regulation 29CFR 1910.1200 and classified as:

Flammable liquids	Category 2	H225
Skin irritation	Category 2	H315

HMIS® Rating: Health: 2 Fire: 3 Physical Hazard: 1

HMIS® is a registered trademark of the National Paint and Coatings Association

NFPA 704 Rating: Health: 2 Fire: 3 Reactivity: 1

Label Elements

Hazard Pictogram(s):



Signal Word: Danger.

Hazard Statements:

H225- Highly flammable liquid and vapor

H315- Causes skin irritation

Precautionary Statements:

General

Read label before use.

Prevention

Keep away from heat/parks/open flames/hot surfaces – No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash skin thoroughly after handling.
Wear protective gloves/eye protection/face protection.

Response

If on skin (or hair): Take off all contaminated clothing immediately. Rinse skin with water. If skin irritation occurs, get medical advice/attention.

In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage

Store locked up, in a well-ventilated place. Keep cool.

Disposal

Dispose of contents/container in accordance with all local, state, national, and international regulations.

Hazards not otherwise classified:

None known.

Section 3: Hazardous Ingredients/Composition

Ingredient	Typical Percentage*	CAS #
Octyl triethoxy silane	15-30%	35435-21-3
Flammable liquids: Category 3		
Skin irritation: Category 2		
Ethanol, ethyl alcohol	10-20%	64-17-5
Flammable liquids: Category 2		
Dimethyl Carbonate	60-80%	616-38-6
Flammable liquids: Category 2		

*Specific chemical identities and concentrations withheld as trade secret. They are available upon request to health professionals, employees and their designated representatives in accord with 29CFR1910.1200(i).

Section 4: First Aid Measures

Eye contact:

In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

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.

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.

Ingestion:

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

Symptoms of overexposure: None known.

Note to physician: None.

Section 5: Fire Fighting Measures

Suitable fire extinguishing media: Use water spray or fog, foam, dry chemical, or CO₂.

Unsuitable fire extinguishing media: High volume water jet.

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

Special protective equipment for firefighters: As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved), or containers can build up excess pressure if exposed to heat (fire). Cool with water spray.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

General precautions: Remove all sources of ignition. Ventilate the area. Wear personal, protective equipment. Ensure enough ventilation. Run off may create fire or explosion hazard in sewer.

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

Methods and materials for containment and cleaning up: Contain spillage, then collect with non-combustible, absorbent materials (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations.

Section 7: Handling and Storage

Precautions for safe handling:

Protective measures: Keep away from heat. Keep away from sparks, flames and other sources of ignition. Avoid breathing vapor or mist. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Follow all MSDS/Label precautions even after the container is emptied as it may contain product residue. Vapors may be spread long distances and travel to areas away from the work site before igniting or flashing back to the vapor source. Wear personal, protective equipment.

Advice on protection against fire and explosion: This material may have a low electric 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.

Conditions for safe storage including any incompatibilities: Keep tightly closed in dry, cool, well ventilated place. Residual vapors might explore on ignition. Do not apply heat, cut, drill, grind or weld on or near this container.

Section 8: Exposure Controls/Personal Protection

Occupational exposure limits:

Ethanol; ethyl alcohol CAS-No. 64-17-5	Permissible exposure limit (OSHA Z1)	time weighted average (TWA permissible exposure limit (PEL): (US CA OEL)	short term exposure limit (STEL): (ACGIH)	time weighted average (TWA): (TN OEL)
Control parameters	1000 ppm- 1900 m g/m ³	1000 ppm- 1900 m g/m ³	1000 ppm	1000 ppm- 1900 m g/m ³

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.

Eye protection: Use chemical splash goggles or face shield.

Hand protection: Use impermeable gloves.

Skin protection: A safety shower and eye wash foundation 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.

Section 9: Physical and Chemical Properties

Appearance:	Clear liquid
Odor:	Strong odor
Odor threshold:	No data available.
Flash point:	14 °C
Boiling Point:	78 °C (760 hPa)
Melting point:	No data available.
Evaporation rate:	No data available.
Flammability:	No data available.
Lower explosion limit:	Not determined.
Upper explosion limit:	Not determined.
Vapor Pressure:	74 hPa (22°C)
Specific Gravity:	0.97
Density:	8.05 lb/gal
Solubility in water:	Not miscible, decomposition by hydrolysis.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
VOC (g/l):	<600

Section 10: Stability and Reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: Avoid high temperatures and sources of ignition.

Incompatibility: Water, acids, oxidizing substances.

Hazardous decomposition products: Silicone polymers, stable under normal conditions. Product will not undergo hazardous polymerization.

Section 11: Toxicological Information

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

Octyl triethoxy silane:

11.1.1 Acute toxicity

Assessment:

Based on the available data acute toxic effects are not expected after single oral exposure. Based on the available data acute toxic effects are not expected after single dermal exposure. Based on the available data acute toxic effects are not expected after short-term inhalation exposure.

Product details:

Route of exposure	Result/effect	Species/test system	Source
Oral 423	LD50: >2,000 mg/kg	Rat	Test report OECD
Dermal OECD 402	LD50: >2,000 mg/kg	Rat	Test report
By inhalation (spray)	LC50: >11.2 mg/l; 4h	Rat	Test report

No mortality observed at this dose. Substance OECD.

11.1.2 Skin corrosion/irritation

Product details:

Result/effect	Species/test system	Source
Not irritating	Rabbit	Test report OECD 404

11.1.3 Serious eye damage / eye irritation

Assessment:

Product details:

Result/effect	Species/test system	Source
Not irritating	Rabbit	Test report OECD 405

11.1.4 Respiratory or skin sensitization

Assessment:

Product details:

Route of exposure	Result/effect	Species/test system	Source
Dermal report to OECD 406	Not sensitizing	Guinea pig	Maximization test

11.1.5 Germ cell mutagenicity

Assessment:

Based on known data a significant mutagenic potential may be excluded.

Product details:

Result/effect	Species/test system	Source
Negative	Mutation assay (in vitro) bacterial cells	Test report OECD 471
Negative	Chromosome aberration assay (in vitro) mammalian cells	Test report OECD 473
Positive (without metabolic activation)	Chromosome aberration assay (in vitro) mammalian cells	Test report OECD 473
Negative (with metabolic activation)	Chromosome aberration assay (in vitro) mammalian cells	Test report OECD 473
Negative	Mutation assay (in vitro) mouse lymphoma cells	Test report (read across substance) OECD 476
Negative	Micro nucleus assay (in vivo) mouse oral' erythrocytes	Test report OECD 474

*Positive results only in the presence of cytotoxicity

11.1.6 Carcinogenicity

Assessment:

Based on the available toxicological data no specific evaluation of the carcinogenic potential is scientifically implicated.

11.1.7 Reproductive toxicity

Assessment:

Animal tests have shown no indications of possibility of damage to embryo and impairment of fertility.

Product details:

Result/effect (examinations of fertility disruption)	Species/Test system	Source
NOAEL: >= 1000 mg/kg OECD 422	Screening test, rat, oral,	Conclusion by analogy

Result/effect (examinations of developmental toxicity and teratogenicity)	Species/test system	Source
NOAEL (developmental): >= 1000 mg/kg OECD 414	Developmental toxicity study, rat, oral (gavage); day 6-20 of gestation	Nothing abnormal detected
NOAEL (maternal): >= 1000 mg/kg OECD 414	Developmental toxicity study, rat, oral (gavage) ; day 6-20 of gestation	Nothing abnormal detected

11.1.8 Specific target organ toxicity (single exposure)

Assessment:

For this endpoint no toxicological test data is available for the whole product. For this endpoint no toxicological test data is available for the whole product.

11.1.9 Specific target organ toxicity (repeated exposure)

Assessment:

Based on the available data the criteria for classification as toxic after repeated exposure are not fulfilled.

Product details:

Result/effect	Species/test system	Source
NOAEL: 150 mg/kg	Subacute study rat oral (gavage) 28 d; 7 d/w test report	Test report OECD 407
NOAEC: >= 3 mg/l	Subacute study rat by inhalation (spray) 28 d; 5 d/w; 6 hours/day Follow-up observation period: 14 d test report (read across substance)	Test report OECD 412

*Target organs: bladder. The given result is based on an evaluation of the whole database for this endpoint ("weight of evidence").

11.1.10 Aspiration hazard

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.11 Further toxicological information

Assessment:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Other information: Hydrolysis product / impurity: Ethanol (64-17-5) is readily absorbed at all exposure routes. Ethanol may cause irritation of eyes and mucosa, trigger dysfunction of the central nervous system and cause nausea as well as dizziness. Chronic exposure to high amounts of ethanol may cause damage to liver and central nervous system

Ethanol; ethyl alcohol

11.1.1 Acute toxicity

Assessment:

No mortality observed at this dose. Substance OECD.

Product details:

Route of exposure	Result/effect	Species/test system
Oral	LD-50: >6,200 mg/kg	Rat
Inhalation	LD-50: >95.6 mg/l / 4h	Rat
Skin irritation	Not irritating	Rabbit
Eye irritation	Not irritating	Rabbit
Sensitization, Magnusson & Kligman	Not sensitizing	N/A

Dimethyl Carbonate assessment:

11.1.1 Acute toxicity

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS #	Name	Oral LD50, mg/kg	Dermal LD50, mg/kg	Vapor LC50, mg/l
616 38-6	Dimethyl Carbonate	13000.0	>5000	>140

11.1.2 Skin corrosion/irritation

May cause skin irritation. May be harmful if absorbed through skin. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

11.1.3 Serious eye damage / eye irritation

May cause eye irritation. May cause redness.

11.1.4 Respiratory or skin sensitization

Vapors are irritating to the respiratory tract. Excessive amounts can cause suffocation. May cause central nervous system depression. May cause dizziness and drowsiness. Ingestion may cause gastrointestinal tract irritation.

11.1.6 Carcinogenicity

CAS #	Name	IARC	NTP
616 38-6.....	Dimethyl Carbonate.....	N.D.....	N.D.

Section 12: Ecological Information

Toxicity: No data available.

Persistence and degradability: no data available

Assessment:

Contact with water liberates ethanol and silanol- and/or siloxanol-compounds. The hydrolysis product (Ethanol) is readily biologically degradable.

Product Details: Biodegradation

Result	Test system/Method	Source
13%/28d Not readily biodegradable. Rapid biological degradation of the organic hydrolysis product.	Biological oxygen demand (BOD)	Test Report OECD 310

Product details: Hydrolysis

Result	Test system	Source
Half-life: 22h	pH 7. 68-77	Calculated

Bioaccumulation: Not expected to occur.

Mobility in soil: No data available.

Other Adverse Effects: No ecotoxicological studies are available.

Section 13: Disposal Considerations

Disposal Methods: Waste must be disposed of in accordance with federal, provincial, state and local regulations. Empty contains must be handled with care due to product residue. DO NOT HEAR OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GLASS TORCH.

Uncleaned packaging:

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

Section 14: Transportation

Proper shipping name: Resin solution

DOT Road/Rail:

UN Number: UN1866

Hazard class: 3

Packing group: II

Environmental hazards: None

Special precautions: None

Section 15: Regulatory Information

This product does not contain any:

- Chemicals regulated under:
OSHA
SARA 313
- Hazardous air pollutants.
- Chemicals known to the state of California to cause cancer or reproductive effects.
- Chemicals included in the California Drinking Water Act

SARA 311/312 Hazard Categories

Acute health hazard:	Yes
Chronic Health Hazard:	No
Fire hazard:	Yes
Sudden release of pressure hazard:	No
Reactive Hazard:	No

Section 16: Other Information

Additional information on the product is available at: www.tccmaterials.com

Date and Revision: 12 May 2020, Revision 1.2

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Safety Data Sheet
ProSpec® 20% Silane Sealer
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Version 1.2

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