

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: Dynasylan® 6598

Chemical name:

Polysiloxane, containing vinyl, alkyl and ethoxy groups

Other means of identification

Recommended restrictions

Recommended use: For industrial use Coupling agent Crosslinking agents

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 : 800 681 9531 (CHEMTREC MEXICO)
+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids

Category 4

Label Elements

Hazard Symbol: No symbol

Signal Word: Warning

Hazard Statement: Combustible liquid.

Precautionary Statements

Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wear protective gloves/eye protection/face protection.

Response: 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 approved waste disposal plant.

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

3. Composition/information on ingredients

Chemical name:
 Polysiloxane, containing vinyl, alkyl and ethoxy groups

Substances

Chemical Identity	CAS number	Content in percent (%) [*]
Triethoxypropylsilane	2550-02-9	>=1 - <5%
Triethoxy(vinyl)silane	78-08-0	>=1 - <5%

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

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: Use water spray or fog, foam, dry chemical or CO₂.

Unsuitable extinguishing media: No data available.

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. 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: Use personal protective equipment. Ensure adequate 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 for good ventilation if vapors/aerosols are formed.

Safe handling advice: Use personal protective equipment. Ensure adequate ventilation. 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.
 Follow all SDS/label precautions even after container is emptied because it may retain product residues.

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: Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture. 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.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Ethanol	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (03 2016)
	REL	1,000 ppm 1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	1,000 ppm 1,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)

Hazardous components without workplace control parameters

Appropriate Engineering Controls Provide for good ventilation if vapors/aerosols are formed.

Individual protection measures, such as personal protective equipment

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

Skin Protection

Hand Protection:

Material: Butyl rubber.

Break-through time: >= 480 min

Material: Fluorinated rubber (Viton)

Break-through time: >= 480 min

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., Selection of protective gloves to meet the requirements of specific workplaces., Suitability for specific workplaces should be clarified with protective glove manufacturers., 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:** colourless
- Odor:** almost odourless
- Odor Threshold:** not determined
- pH:** approx. 5 (20 °C)
- Freezing point:** < -55 °C
- Boiling Point:** 255 °C (1,013 hPa) (ASTM D-1120)
- Flash Point:** ≥ 70 °C (DIN EN ISO 2719 (Pensky-Martens, Closed Cup))
- Evaporation Rate:** not determined
- Flammability (solid, gas):** No data available.

- Explosive limit - upper (%):** not determined
- Explosive limit - lower (%):** not determined
- Vapor pressure:** not determined
- Vapor density (air=1):** No data available.
- Density:** approx. 1 g/cm³ (20 °C) (DIN 51757)
- Relative density:** No data available.
- Solubility(ies)**
- Solubility in Water:** Insoluble slow decomposition by hydrolysis
- Solubility (other):** No data available.
- Partition coefficient (n-octanol/water):** not determined
- Self Ignition Temperature:** No data available.
- Decomposition Temperature:** not determined
- Kinematic viscosity:** No data available.
- Dynamic viscosity:** 3.00 - 7.00 mPa.s (20 °C, DIN 53 015)
- Other information**
- Explosive properties:** No data available.
- 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: Peroxides. Oxidizing agents.
Conditions to avoid:	(ethanol) Vapours can form explosive mixtures with air. Protect from moisture.
Incompatible Materials:	alkalis Peroxides. Oxidizing agents. acids
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:	No data available.
Dermal	
Product:	No data available.
Inhalation	
Product:	No data available.

Repeated dose toxicity

Product: No data available.

Components:

Triethoxypropylsilane NOAEL (Rat, Oral): 940 mg/kg Molecular Weight corrected
 Triethoxy(vinyl)silane NOAEL (Rat(male and female), Oral): 62.5 mg/kg LOAEL (Rat(male and female), Oral): 250 mg/kg

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

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: No data available.

In vivo

Product: No data available.

Components:

Triethoxypropylsilane Micronucleus test (OECD TG 474) Oral (Mouse): negative
Micronucleus test (OECD TG 474) Oral: negative

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects:

No results of animal experiments with the product available. The toxicological data on this product have not been determined experimentally.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Components:

Triethoxypropylsilane (Brachydanio rerio (zebrafish), 96 h): 80 mg/l tested substance: Structurally similar substance

Triethoxy(vinyl)silane LC 50 (Danio rerio (zebra fish), 96 h): > 100 mg/l tested substance:

Structurally similar substance

Aquatic Invertebrates
Product: No data available.

Components:

Triethoxypropylsilane EC 50 (Daphnia magna (Water flea), 48 h): 21.5 mg/l tested substance: Structurally similar substance

Triethoxy(vinyl)silane EC 50 (Daphnia magna (Water flea), 48 h): 297.2 mg/l tested substance: Structurally similar substance

Chronic hazards to the aquatic environment:
Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Components:

Triethoxypropylsilane NOEC (Daphnia magna (Water flea), 21 d): > 100 mg/l tested substance: Structurally similar substance

Triethoxy(vinyl)silane NOEC (Daphnia magna (Water flea), 21 d): 28.1 mg/l

Toxicity to Aquatic Plants
Product: No data available.

Components:

Triethoxypropylsilane EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 819 mg/l tested substance: Structurally similar substance

Triethoxy(vinyl)silane EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 957 mg/l growth rate tested substance: Structurally similar substance

Persistence and Degradability
Biodegradation
Product: 12.6 % (28 d, OECD 301 B)

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: not determined

Mobility in soil:

No data available.

Other adverse effects:

An Expert Judgment stated that no classification is necessary based on present knowledge.

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: Packaging, that can not be reused after cleaning must be disposed or recycled in accordance with all federal, national and local regulations. 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.
(contains Vinyltriethoxysilane, Propyltriethoxysilane)

Class : CBL

Packing group : III

Labels : NONE

ERG Code : 128

Marine pollutant : no

Remarks : Not regulated in packages 450 liter or less.

International Regulations

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)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Ethanol	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Flammable (gases, aerosols, liquids, or solids)

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**

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
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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 ActChemical Identity

Ethanol

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.

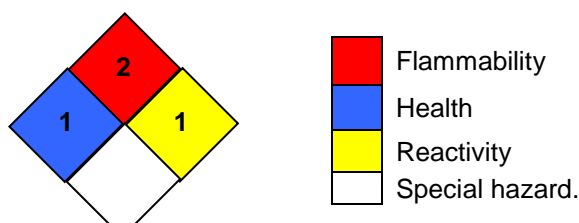
US. Rhode Island RTK

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

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

Health	1
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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