1. Identification

1.1. Product identifier

Trade name	Si 266®
Chemical Name	4,4,13,13-Tetraethoxy-3,14-dioxa-8,9-dithia-4,13-disilahexadecane
CAS-No.	56706-10-6

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified	Rubber - producing and processing industry

1.3. Details of the supplier of the safety data sheet

Company	Evonik Corporation USA 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

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Remarks Not a hazardous substance or mixture.

2.2. Label elements

Statutory basis	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
Remarks	Not a hazardous substance or mixture.

2.3. Other hazards

None known

4,4,13,13-Tetraethoxy-3,14-dioxa-8,9-dithia-4,13-disilahexadecane Not a PBT, vPvB substance as per the criteria of the REACH Regulation.

3. Composition/information on ingredients

3.1. Substances

• 4,4,13,13-Tetraethoxy-3,14-dioxa-8,9-dithia-4,13-disilahexadecane

CAS-No. 56706-10-6

Remarks Not a hazardous substance or mixture.

Other information
This product does not contain any components considered to be health hazards under the OSHA Hazard Communication Standard 29 CFR 1910.1200 or under the WHMIS Controlled Product Regulations in Canada.

3.2. Mixtures
not applicable

4. First aid measures

4.1. Description of first aid measures

General advice
Remove contaminated or saturated clothing.

Inhalation
If aerosol or mists are formed:
Possible discomfort: cough, sneezing, flow of tears . Take affected persons out into the fresh air.
If symptoms persist, call a physician.

Skin contact
Wash off with soap and plenty of water.

Eye contact
With eye held open, thoroughly rinse immediately with plenty of water for at least 5 minutes.
In case of persistent discomfort: Consult an ophthalmologist.

Ingestion
Rinse mouth.
Have patient drink plenty of water in small sips.
After absorbing large amounts of substance:
Consult a physician.

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

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

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Water spray, foam, CO2, dry powder.
Unsuitable extinguishing media: high volume water jet

5.2. Special hazards arising from the substance or mixture

May be released in case of fire: carbon monoxide, carbon dioxide, sulphur oxides.

5.3. Advice for firefighters

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.
As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Fill into marked, sealable containers. To be disposed of in compliance with existing regulations.

Suitable binder: sand (for damming up)

Additional advice

Defect containers must be isolated and sealed immediately.

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7. Handling and storage

7.1. Precautions for safe handling

Local ventilation. Always close container tightly after removal of product.

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

Take precautionary measures against static discharges.
Keep away from sources of ignition - No smoking.
Explosion protection is recommended in case the explosion limits for the following substance might be exceeded: Ethanol.
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.
Keep away from humidity.

Storage

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

Advice on common storage

Protect against humid air and water.
Incompatible with acids and bases.

Storage stability

10 - 40 °C
Do not store longer than 12 months.

8. Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

Remarks not necessary (see chapter 15)

PNEC values

Remarks not necessary (see chapter 15)

8.2. Exposure controls

Engineering measures

see section 7.

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

Wear protective gloves made of resistant material.

Glove material	butyl-rubber
Material thickness	0.5 mm
Break through time	>= 480 min
Glove material	Nitrile rubber
Material thickness	0.35 mm
Break through time	>= 480 min
Glove material	Fluorinated rubber (Viton)
Material thickness	0.4 mm
Break through time	>= 480 min

The rupture time and material thickness data are guideline values! Exact rupture time / material thickness data can be obtained from the protective glove manufacturer.
Suitability for specific workplaces should be clarified with protective glove manufacturers.
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.

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

When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work.
Remove contaminated or saturated clothing.
Wash contaminated clothing before re-use.
Preventive skin protection is recommended.

Protective measures
Handle in accordance with good industrial hygiene and safety practice.
If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used.
If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.
Do not breathe in vapours or aerosols.
Avoid contact with the skin and the eyes.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

physical state	liquid (20 °C)	(1013 hPa)
Colour	light yellow	
Form	liquid	
Odour	sulphurous	
Odour Threshold	not determined	
pH	not applicable	
Melting point/range	ca. -117 °C	
	Method:	EC Method A.1
Boiling point/range	269 °C	(1013 hPa)
	Method:	EC Method A.2
Flash point	> 100 °C	
	Method:	DIN EN ISO 2719 (Pensky-Martens, Closed Cup)
	188 °C	
	Method:	ISO 2592:2000; JIS K 2265-4:2007 (Japan)
Evaporation rate	not determined	
Flammability (solid, gas)	no data available	
Lower explosion limit	1 %(V)	(76 °C)
Upper explosion limit	not to be determined	
Vapour pressure	0.1 hPa	(20 °C)
	Method:	EC Method A.4
Density	ca. 1.03 g/cm3	(20 °C)
	Method:	EC Method A.3
Water solubility	<= 1 mg/l	(20 °C)
	Method:	OECD Test Guideline 105
Partition coefficient: n-octanol/water	not applicable	
Autoignition temperature	230 °C	
	Method:	DIN 51 794

Thermal decomposition	> 150 °C	(1013 mbar)
Viscosity, dynamic	8 mPa.s	(20 °C)
Viscosity, kinematic	7.73 mm2/s	(20 °C)

9.2. Other information

Explosiveness: not explosive

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

10.4. Conditions to avoid
Keep away from heat and sources of ignition.

10.5. Incompatible materials
Reaction with water and alkaline solutions:, Reacts with:, Acids, Formation of ethanol.

10.6. Hazardous decomposition products
decomposition products with heating above decomposition temperature
Carbon monoxide, Carbon dioxide (CO2), hydrogen sulphide, Ethanol

11. Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity	LD50 Rat: > 2150 mg/kg Method: OECD Test Guideline 401 Assessment: The substance or mixture has no acute oral toxicity (limit test)
Acute inhalation toxicity	LC50 Rat: > 7.967 mg/l / 4 h / Aerosol Method: OECD Test Guideline 403 Test substance: Structurally similar substance Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	LD50 Rat: > 2000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity
Skin irritation	Rabbit No skin irritation Method: OECD Test Guideline 404
Eye irritation	Rabbit No eye irritation

	Method:	OECD Test Guideline 405
Sensitization	Maximization test Guinea pig: Does not cause skin sensitisation. Method: OECD Test Guideline 406 Test substance: Structurally similar substance	
Repeated dose toxicity	Oral Rat Testing period: 28 d NOAEL: 200 mg/kg Method: OECD Test Guideline 407	
Assessment of STOT single exposure	Assessment:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
Assessment of STOT repeat exposure	Assessment:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Risk of aspiration toxicity	No evidence of aspiration toxicity	
Gentoxicity in vitro	Ames test Salmonella typhimurium negative Method: OECD 471 Cytogenetic test V 79 cells (Chinese hamster) negative Method: OECD 473	
Gentoxicity in vivo	Micronucleus test (mouse) intraperitoneal (i.p.) negative Method: OECD 474	
Carcinogenicity	No evidence that cancer may be caused.	
Toxicity to reproduction	No data available	

12. Ecological information

12.1. Toxicity

Toxicity to fish (Brachydanio rerio): No toxic effect in the event of maximal solubility in water

12.2. Persistence and degradability

Biodegradability
Exposure time: 28 d
Result: ca.20 % Not readily biodegradable.
Method: OECD 301 F

12.3. Bioaccumulative potential

Bioaccumulation
Method: OECD TG 305 C
low

12.4. Mobility in soil

Mobility — Adsorption on the floor: low.

12.5. Other adverse effects

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

13. Disposal considerations

13.1. Waste treatment methods

Product

Waste must be disposed of in accordance with federal, state, provincial and local regulations.

Uncleaned 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

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 dangerous according to transport regulations.

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:

- No SARA Hazards

SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III 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

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

Health :	1
Flammability :	1
Physical Hazard :	0

NFPA Ratings

Health :	1
Flammability :	1
Reactivity :	0

16. Other information

Further information

Revision date 05/29/2015

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

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Legend

ACC	American Chemistry Council
ACGIH	American Conference of Governmental Industrial Hygenists
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
DMEL	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)C50	LC50 or EC50
LOAEL	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	Organisation 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

voc	volatile organic compounds
WHMIS	Workplace Hazardous Materials Information System
WHO	World Health Organization