SAFETY DATA SHEET

FILE NO.: SC-8132 Silane DATE: 12/06/2023

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT NAME: SC-8132
CHEMICAL NAME/FAMILY: PHENYLTRIETHOXYSILANE
1.2 IDENTIFIED USE: Silane crosslinker
1.3 MANUFACTURER: Manufactured/Supplied by Silsource Inc.
ADDRESS: 240 Mary Street, Port Perry, Ontario, L9L 1B7

1.4 CHEMICAL EMERGENCY ONLY (PHONE): CANUTEC [24 Hr.] CANADA 888-226-8832 or 613-996-6666
CHEMTREC [24 Hr.] USA 1-800-262-8200

SECTION 2: HAZARD IDENTIFICATION

2.1

Health hazards	Serious eye damage/eye irritation	Category 2
OSHA defined hazards	Not classified.	

2.2 Label elements

2.2.1. Pictogram

2.2.2. Signal word: Warning

2.2.3. Hazard statement(s)

Causes serious eye irritation

2.2.4. Precautionary statements

Prevention

Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

2.3 Other Hazards

The hydrolysis product of this compound is ethanol. Overexposure to ethanol by skin absorption, inhalation or ingestion may have a narcotic effect (headache, nausea, drowsiness). Ethanol is metabolized to acetaldehyde and acetic acid which in large quantities result in metabolic acidosis, CNS depression and death due to respiratory arrest. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances PHENYLTRIETHOXYSILANE

Synonyms:

Substance name	CAS #	Concentration [%]
Phenyltriethoxysilane	780-69-8	> 95

3.2 Mixtures

Not Relevant

SECTION 4: FIRST AID MEASURES

General advice Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

Inhalation If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician

Skin contact Wash off with soap and plenty of water. Consult a physician.

Eye contact Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation

May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.

Symptoms/injuries after skin contact

Causes skin irritation.

Symptoms/injuries after eye contact

Causes serious eye irritation.

Symptoms/injuries after ingestion

May be harmful if swallowed.

Chronic symptoms

On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system.

Indication of any immediate medical attention and special treatment needed

NOTE TO PHYSICIAN: This prouct reacts with water in the acid contents of the stomach to form ethanol.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide.
For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective.
Cool all affected containers with flooding quantities of water.

5.2 Special hazards arising from the substance or mixture

Fire hazard

Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

Advice for firefighters

Firefighting instructions

Wear self contained breathing apparatus for fire fighting if necessary

5.3 Protection during firefighting

Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid release to the environment. Do not let product enter drains.

6.3 Methods and materials 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). Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid all eye and skin contact. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Hygiene measures

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities:

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Incompatible materials	Moisture. Water
Storage area	Store in a well-ventilated place. Store away from heat. Moisture sensitive. Handle and store under inert gas.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Ethanol (64-17-5)

Austria	MAK (mg/m³)	1900 mg/m³
Austria	MAK (ppm)	1000 ppm
Austria	MAK Short time value (mg/m³)	3800 mg/m³
Austria	MAK Short time value (ppm)	2000 ppm
Belgium	Limit value (mg/m³)	1907 mg/m³
Belgium	Limit value (ppm)	1000 ppm
Bulgaria	OEL TWA (mg/m³)	1000 mg/m³
France	VLE (mg/m³)	9500 mg/m³
France	VLE (ppm)	5000 ppm
France	VME (mg/m³)	1900 mg/m³
France	VME (ppm)	1000 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	960 mg/m³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are
Germany	TRGS 900 Occupational exposure limit value (ppm)	500 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Greece	OEL TWA (mg/m³)	1900 mg/m³
Greece	OEL TWA (ppm)	1000 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	1000 ppm
Latvia	OEL TWA (mg/m³)	1000 mg/m³
USA IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1900 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	1900 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Spain	VLA-EC (mg/m³)	1910 mg/m³
Spain	VLA-EC (ppm)	1000 ppm
Switzerland	KZGW (mg/m³)	1920 mg/m³
Switzerland	KZGW (ppm)	1000 ppm
Switzerland	MAK (mg/m³)	960 mg/m³
Switzerland	MAK (ppm)	500 ppm
Netherlands	Grenswaarde TGG 8H (mg/m³)	260 mg/m³
Netherlands	Grenswaarde TGG 15MIN (mg/m³)	1900 mg/m³
United Kingdom	WEL TWA (mg/m³)	1920 mg/m³
United Kingdom	WEL TWA (ppm)	1000 ppm
United Kingdom	WEL STEL (mg/m³)	5760 mg/m³ (calculated)
United Kingdom	WEL STEL (ppm)	3000 ppm (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m³)	1000 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	1900 mg/m³
Denmark	Grænseværdie (langvarig) (ppm)	1000 ppm
Finland	HTP-arvo (8h) (mg/m³)	1900 mg/m³
Finland	HTP-arvo (8h) (ppm)	1000 ppm
Finland	HTP-arvo (15 min)	2500 mg/m³
Finland	HTP-arvo (15 min) (ppm)	1300 ppm
Hungary	AK-érték	1900 mg/m³

Hungary	CK-érték	7600 mg/m³
Ireland	OEL (15 min ref) (ppm)	1000 ppm
Lithuania	IPRV (mg/m³)	1000 mg/m³
Lithuania	IPRV (ppm)	500 ppm
Lithuania	TPRV (mg/m³)	1900 mg/m³
Lithuania	TPRV (ppm)	1000 ppm
Norway	Grenseverdier (AN) (mg/m³)	950 mg/m³
Norway	Grenseverdier (AN) (ppm)	500 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m3)	950 mg/m³
Norway	Grenseverdier (Korttidsverdi) (ppm)	500 ppm
Poland	NDS (mg/m³)	1900 mg/m³
Romania	OEL TWA (mg/m³)	1900 mg/m³
Romania	OEL TWA (ppm)	1000 ppm
Romania	OEL STEL (mg/m³)	9500 mg/m³
Romania	OEL STEL (ppm)	5000 ppm
Slovakia	NPHV (priemerná) (mg/m³)	960 mg/m³
Slovakia	NPHV (priemerná) (ppm)	500 ppm
Slovakia	NPHV (Hraničná) (mg/m³)	1920 mg/m³
Sweden	nivågränsvärde (NVG) (mg/m³)	1000 mg/m³observed)
Sweden	nivågränsvärde (NVG) (ppm)	500 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	1900 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	1000 ppm
Canada (Quebec)	VEMP (mg/m³)	1880 mg/m³
Canada (Quebec)	VEMP (ppm)	1000 ppm
Australia	TWA (mg/m³)	1880 mg/m³
Australia	TWA (ppm)	1000 ppm
Portugal	OEL TWA (ppm)	1000 ppm
Portugal	OEL chemical category (PT)	A4 - Not Classifiable as a Human Carcinogen

Exposure controls

Appropriate engineering controls

Provide local exhaust or general room ventilation.

Personal protective equipment

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection

Neoprene or nitrile rubber gloves

Eye protection

Chemical goggles. Contact lenses should not be worn. Face shield.

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at substance at the work place.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: clear liquid
Molecular mass	240.37 g/mol
Color	straw
Odor	mild
Odor Threshold	No data available
Refractive index	1.4718
pH	No data available
Relative evaporation rate (butyl acetate=1)	No data available
Melting point	No data available
Freezing point	< 0 °C
Boiling point	112 - 113°C @ 10 mm Hg
Flash point:	96 °C
Auto-ignition temperature	265 °C
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapor pressure:	< 1 mm Hg @ 75°C
Relative vapor density at 20°C	> 1

Relative density	0.996
Solubility Insoluble in water.	Reacts slowly with water.
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	1.7 cSt @ 25°C
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Explosive limits	No data available

9.2 Other safety information
no data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability and Possibility of hazardous reactions:
Stable in sealed containers under recommended storage conditions.
Reacts with water and moisture in air, liberating ethanol.

10.2 Conditions to Avoid:
Heat, flames and sparks.

10.3 Incompatible materials:
Moisture. Water.

10.4 Hazardous decomposition products:
Hazardous decomposition products formed under fire conditions. - Carbon oxides, silicon oxides

SECTION 11: TOXICOLOGICAL INFORMATION

11 Information on toxicological effects

Acute toxicity
Not classified

PHENYLTRIETHOXYSILANE (780-69-8)

LD50 oral rat	12300 µl/kg

Ethanol (64-17-5)

LD50 oral rat	7060 mg/kg
LC50 inhalation rat (mg/l)	124.7 mg/l/4h
LC50 inhalation rat (ppm)	20000 ppm 10 hrs.
LDLo oral rat	1400 mg/kg (Human)
ATE CLP (oral)	7060 mg/kg bodyweight
ATE CLP (vapours)	124.7 mg/l/4h
ATE CLP (dust,mist)	124.7 mg/l/4h

Phenyltriethoxysilane (780-69-8)

LD50 oral rat	2830 mg/kg
LD50 dermal rabbit	3150 mg/kg
ATE CLP (oral)	2830 mg/kg bodyweight
ATE CLP (dermal)	3150 mg/kg bodyweight
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified

Ethanol (64-17-5)

IARC group	1 - Carcinogenic to humans
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Symptoms/effects after inhalation	May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.
Symptoms/effects after skin contact	Causes skin irritation.
Symptoms/effects after eye contact	Causes serious eye irritation.
Symptoms/effects after ingestion	May be harmful if swallowed.
Chronic symptoms	On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system.
Reason for classification	Expert judgment

SECTION 12: ECOLOGICAL INFORMATION

12 Toxicity

Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified

Ethanol (64-17-5)	
LC50 fish 1	> 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [rainbow trout])
LC50 fish 2	> 13400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [fathead minnow])

Persistence and degradability
No data available
Bioaccumulative potential

Ethanol (64-17-5)	
Log Pow	-0.32

Mobility in soil
No data available
Results of PBT and vPvB assessment
No additional information available
Other adverse effects
This substance may be hazardous to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13 Disposal instructions
Waste treatment methods
Product/Packaging disposal recommendations:
May be incinerated. Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials:
Avoid relase to the environment.

SECTION 14: TRANSPORT INFORMATION

14. UN number
In accordance with ADR / RID / IMDG / IATA / ADN

UN-No. (ADR)	Not applicable
UN-No. (IMDG)	Not applicable
UN-No. (IATA)	Not applicable
UN-No. (ADN)	Not applicable
UN-No. (RID)	Not applicable
UN proper shipping name	
Proper Shipping Name (ADR)	Not applicable
Proper Shipping Name (IMDG)	Not applicable
Proper Shipping Name (IATA)	Not applicable
Proper Shipping Name (ADN)	Not applicable
Proper Shipping Name (RID)	Not applicable
Transport hazard class(es)	
ADR	
Transport hazard class(es) (ADR)	Not applicable
IMDG	
Transport hazard class(es) (IMDG)	Not applicable
IATA	
Transport hazard class(es) (IATA)	Not applicable
ADN	
Transport hazard class(es) (ADN)	Not applicable
RID	
Transport hazard class(es) (RID)	Not applicable
Packing group	
Packing group (ADR)	Not applicable
Packing group (IMDG)	Not applicable
Packing group (IATA)	Not applicable
Packing group (ADN)	Not applicable
Packing group (RID)	Not applicable
Environmental hazards	
Dangerous for the environment	No
Marine pollutant	No
Other information	No supplementary information available

Special precautions for user
Overland transport

No data available
Transport by sea
No data available
Air transport
No data available
Inland waterway transport
No data available
Rail transport
No data available
Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
EU-Regulations
No REACH Annex XVII restrictions
PHENYLTRIETHOXYSILANE is not on the REACH Candidate List
PHENYLTRIETHOXYSILANE is not on the REACH Annex XIV List
National regulations
Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV
Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)
Netherlands
SZW-lijst van kankerverwekkende stoffen
The substance is not listed
SZW-lijst van mutagene stoffen
The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding
The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid
The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling
The substance is not listed
Denmark
Class for fire hazard
Class II-1
Store unit
50 liter
Classification remarks
Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed
Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: OTHER INFORMATION

This data is offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is made.

The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations.

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.
This SDS is compliant with the GHS requirements outlined at http://www.ccohs.ca/oshanswers/chemicals/whmis_ghs/sds.html

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