SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Number: PROSILANE™ SC-5132
Chemical name: METHYLTRIETHOXYSILANE
CAS No.: 2031-67-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

For industrial use,Raw material, Surface modifier

1.3 Details of the supplier of the safety data sheet

Manufactured/Supplied by Silsource Inc.
ADDRESS: 240 Mary Street, Port Perry, ON L9L 1B7

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 GHS Classification

Classification of the substance or mixture
Classification according to (REGULATION (EC) No 1272/2008)[CLP]

Flammable liquids Category 3 H226

Label elements
Labeling as per (EU) 1272/2008)

Statutory basis EU-CLP as per Regulation (EU) No.1272/2008
Pictogram(s)

Signal word **Warning**

Hazard statement
H226 Flammable liquid and vapor.
Precautionary statement Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection.
Precautionary statement Reaction:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Precautionary statement Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Precautionary statement Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

2.2 Other hazards

A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Information on ingredients / Hazardous components as per EU-CLP Regulation (EC) No.1272/2008

Chemical name	CAS number	H Phrase
Triethoxy(methyl)silane	2031-67-6	
Flammable liquids	Category 3	H226

Texts of H phrases see in Chapter 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information

Take off all contaminated clothing immediately.

Inhalation:

If aerosol or mists are formed:

Move victims into fresh air.

Skin contact:

Wash off immediately with plenty of water.

Consult a doctor in the event of permanent skin irritation.

Eye contact:

With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes. Continue rinsing process with eye rinsing solution.

Protect unharmed eye.

Call ambulance. (Cue: caustic burn of the eyes)

Immediate further treatment in eye clinic/by eye doctor. Continue rinsing eye until arrival at ophthalmic hospital.

Ingestion:

Have the mouth rinsed with water.

Only when patient fully conscious: Have patient drink plenty of water in small sips.

Call a physician immediately.

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

After absorbing large amounts of substance:

Administration of activated charcoal

Acceleration of gastrointestinal passage

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Water spray, Foam, Carbon dioxide (CO_2), Dry powder

Unsuitable extinguishing media:

high volume water jet

5.2 Specific hazards during fire fighting

Standard procedure for chemical fires

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

5.4 Special protective equipment for firefighters:

In case of fire: wear a self-contained respiratory apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep away from sources of ignition. No smoking.

6.2 Environmental preventive measures

Do not allow entrance in sewage water, soil stretches of water, groundwater, and drainage systems.

6.3 Methods and materials for restraining and cleaning up the spills

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.

6.4 Reference to other sections

Wear personal protective equipment; see section 8.

Disposal considerations: see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for operation and disposal

Precautions for safe handling

Application, processing: Provide good ventilation or extraction.

7.2 Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

Take precautionary measures against static charges; keep away from sources of ignition. Explosion protection equipment required.

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.

7.3 Storage:

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

Protect from moisture.

7.4 Specific end use(s)

No further information available

Applications: see Section 1.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Other information

No substance-specific limiting value being known.

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

8.3 Personal protective equipment

Respiratory protection

In case of dusts/vapors/aerosols being formed or if the limit values like TLV are exceeded:

Use respiratory equipment with suitable filter (filter type ABEK) or wear a self-contained respiratory apparatus.

Use only respiratory protection equipment with CE-symbol including four digit test number.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Note time limit for wearing respiratory protective equipment.

Hand protection

Glove material	for example, butyl-rubber
Material thickness	0.5 mm
Break through time	≥ 480 min
Glove material	for example, Fluorinated rubber (Viton)
Material thickness	0.4 mm
Break through time	≥ 480 min

Selection of protective gloves to meet the requirements of specific workplaces. Suitability for specific workplaces should be clarified with protective glove manufacturers.

The information is based on our own tests, references from the literature and information from glove manufacturers, or derived by analogy with similar materials.

Please observe that the daily duration of usage of a chemical protective glove is in practice far shorter due to the many influencing factors (e.g. temperature, mechanical strain on the glove material) than the permeation time determined acc. EN 374.

Eye protection

Close-fitting protective goggles (e.g. closed goggles)

Skin and body protection

Suitable protective clothing - Use disposable clothing if appropriate.

Hygiene measures

When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Remove immediately all contaminated clothing.

Wash contaminated clothing before re-use.

8.4 Protective measures

Handle in accordance with good industrial hygiene and safety practice.
The personal protective equipment used must meet the requirements of directive 89/686/EEC and amendments (CE certification).
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 vapors or aerosols.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Form	liquid
Colour:	colourless
Physical state	liquid (20°C) (1013 hPa)
Odour:	faint
pH:	not determined
Melting point/range:	≤ 40°C
	(Literature value)
Boiling point/range	142°C (1013 hPa)
Method:	DIN 51 356
Flash point:	30°C
Method:	DIN EN ISO 13736
Evaporation rate:	not determined
Lower explosion limit:	not determined
Upper explosion limit:	not determined
Vapour pressure:	100 Pa (25°C)
Density:	0.89 g/cm^3 (20°C)
Method:	DIN 51757
Water solubility:	2900 mg/l (20 °C)
Method:	QSAR-Method
	Not miscible
	Decomposition by hydrolysis
Partition coefficient: n-octanol/water	log Pow: -2, 4
Method:	QSAR-Method
Thermal decomposition:	not determined
Viscosity, dynamic:	0.6 mPa.s (20°C)
Method:	DIN 53015
Explosiveness:	not explosive

9.2 Other information

Ignition temperature	220°C
Method:	DIN 51794

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.
Vapors may form explosive mixture with air.

10.2 Conditions to avoid

Keep away from heat and sources of ignition.
Protect from moisture. 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.

10.3 Incompatible materials

Water, Acids, Alkaline.

10.4 Hazardous decomposition products

Ethanol in case of hydrolysis.
Alcohol formed by hydrolysis lowers the flash point of the product.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat:	2000 mg/kg
Method:	OECD Test Guideline 401
Assessment:	The substance or mixture has no acute oral toxicity.

Acute inhalation toxicity

LC50 Rat:	> 13.5 mg/l / 4 h / Aerosol
Method:	OECD Test Guideline 403

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 sensitization.
Method:	OECD Test Guideline 406
Repeated dose toxicity	Oral Rat
NOAEL:	65.5 mg/kg
Method:	OECD TG 422

Repeated dose toxicity

Species:	Rat
Application Route:	inhalative
Exposure duration:	90-day
NOAEC:	733.6 mg/m^3
Method:	OECD TG 413

11.2 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 TG 471

Chromosomal aberration TK +/- mouse lymphoma cell (L5178Y)
Negative
Method: OECD TG 473

Gene mutation TK +/- mouse lymphoma cell (L5178Y)
Negative
Method: OECD TG 476

11.3 Carcinogenicity No evidence that cancer may be caused.

Toxicity to reproduction

Screening for reproductive/developmental toxicity Oral Rat
NOAEL (No Observed Adverse Effect Level) of parents: 1310 mg/kg
Method: OECD TG 422

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 Danio rerio (zebra fish): > 500 mg/l / 96 h

Method:	OECD TG 203
Toxicity in aquatic invertebrates	
EC50 Daphnia magna (Water flea):	> 500 mg/l / 48 h
Method:	OECD TG 202
Toxicity to algae	
EC50 Pseudokirchneriella subcapitata:	> 500 mg/l / 72 h
Method:	OECD TG 201
Toxicity to bacteria	
EC50 local activated sludge:	> 100 mg/l / 3 h
Method:	OECD TG 209

12.2 Persistence and degradability

Biodegradability	Not readily biodegradable.
Bio-accumulative potential	
Bioaccumulation	Low
Mobility in soil	
Mobility	Adsorption on the floor: low.

12.3 Results of PBT and vPvB assessment

A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out.

12.4 Other adverse effects

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

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product disposal:

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

13.2 Packaging disposal:

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.

13.3 Waste Key Number

No waste key number as per the European Waste Types List can be assigned to this product, since such classification is based on the (as yet undetermined) use to which the product is put by the consumer.
The waste key number must be determined as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) in cooperation with the disposal firm / producing firm / official authority.

SECTION 14: TRANSPORT INFORMATION

14.1 Transport on land (ADR/RID/GGVSEB)

UN number	UN 1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S.(triethoxy(methyl)silane)
Transport hazard class(es)	3
Packaging group	III
Environmental hazards	--
Special precautions for user	Yes
ADR	Tunnel Restriction Code: (D/E)
ADR	Special provision 640E
RID	Special provision 640E
Inland waterway transport (ADN/GGVSEB (Germany))	
UN number:	UN 1993
UN proper shipping name:	FLAMMABLE LIQUID, N.O.S.(triethoxy(methyl)silane)
Transport hazard class (es):	3
Packaging group:	III
Environmental hazards:	--
Special precautions for user:	Yes
Special provision 640E	
Air transport ICAO-TI/IATA-DGR	
UN number:	UN 1993
UN proper shipping name:	FLAMMABLE LIQUID, N.O.S.(triethoxy(methyl)silane)

Transport hazard class(es):	3
Packaging group:	III
Environmental hazards:	--
Special precautions for user:	Yes
IATA-C:	ERG-Code 3L
IATA-P:	ERG-Code 3L

Sea transport IMDG-Code/GGVSee (Germany)

UN number:	UN 1993
UN proper shipping name:	FLAMMABLE LIQUID, N.O.S.(triethoxy(methyl)silane)
Transport hazard class(es):	3
Packaging group:	III
Environmental hazards:	--
Special precautions for user:	No
EmS:	F-A, S-D

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
For transport approval see regulatory information

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National legislation
Major Accident Hazard Legislation
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
listing: FLAMMABLE LIQUIDS (P5c)
Quantity: 5000t 50000t

Chemical safety assessment
No substance-related safety assessment is necessary / has been conducted for this product.

SECTION 16: OTHER INFORMATION

Relevant H phrases from chapter 3
H226: Flammable liquid and vapor.

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 in the specific context of the intended use.

This SDS was prepared sincerely on the basis of the information we could obtain, 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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