SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Number:	PROSILANE™ SC-2521
Chemical name:	3-Ureidopropyltriethoxysilane [50% in methanol]
CAS No.:	CAS# 116912-64-2

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

For industrial use: Coupling agent, Crosslinking agents, 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

Flammable liquids	Category 2	H225
Acute toxicity, Oral	Category 3	H301
Acute toxicity, Inhalation	Category 3	H331
Acute toxicity, Dermal	Category 3	H311
Specific target organ toxicity - single exposure	Category 1	H370

GHS Label elements

Labeling as per (EU) 1272/2008)

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

Pictogram

Signal word **Danger**

Hazard statement(s)

H225	Highly flammable liquid and vapor.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled
H370	Causes damage to organs.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P280	Wear protective gloves/ protective clothing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P352	IF ON SKIN: Wash with plenty of water/ soap.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P307 + P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Chemical nature

Silane preparation

3.2 Substances

-

3.3 Mixtures

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

Chemical name	CAS number	Concentration
Methanol > 20%	67-56-1	--
Flammable liquids	Category 2	H225
Acute toxicity (Oral)	Category 3	H301
Acute toxicity (Dermal)	Category 3	H311
Acute toxicity (Inhalation)	Category 3	H331
Specific target organ toxicity - single exposure	Category 1	H370

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.

If inhaled

If aerosol or mists are formed:

Move victims into fresh air.

In case of persistent discomfort: Consult doctor immediately.

In case of skin contact

Wash off immediately with plenty of water.

Consult a doctor in the event of permanent skin irritation.

In case of eye contact

Keeping eyelid open, immediately rinse thoroughly for at least 5 minutes using plenty of water or, if necessary, eye rinsing solution.

Consult an ophthalmologist**.**

If swallowed

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

After absorbing large amounts of substance:

Liberation of reaction products (Methanol) can lead to symptoms of poisoning. Possible signs of poisoning:

daze, dizziness, nausea, colicky abdominal pain, respiratory disturbance. Symptoms upon increasing intoxication: dysopia, loss of eyesight.

4.3 Indication of any immediate medical attention and special treatment needed

If required, therapy of irritative effect.

Treatment:

Early endoscopy in order to assess mucosa lesions in the oesophagus and stomach which may appear. If necessary, aspirate leftover substance.

Detection of substance (Methanol) possible in: Blood

Antidote treatment: ethanol.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: water spray, foam, Carbon dioxide (CO2), dry powder

Unsuitable extinguishing media: High volume water jet

5.2 Specific hazards during fire fighting

In case of fire cool endangered containers with water. Closed container may rupture if strongly heated.

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.
Ensure adequate ventilation

6.2 Environmental preventive measures

Do not allow entrance into sewage water, soil stretches of water, groundwater, 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 safe handling

Provide good ventilation or extraction.
Application, processing: Extraction at the emission source required.

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.
The formation of carbamate must be anticipated if stored above room temperature. Protect from moisture.
Comply with storage regulations and regulations prohibiting storage of hazardous substances in non-stationary containers in the same room (TRGS 510).

7.4 Specific end use(s)

No further information available Applications; see Section 1.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure controls

Engineering measures

Provide good ventilation or extraction.

8.2 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 A) 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 ≥ 240 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
Safety glasses

Skin and body protection
Flame retardant antistatic protective clothing.
(Solvent-resistant)

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.

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.
Avoid contact with skin and eyes.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Physical state	liquid
Odor:	alcoholic
Odor Threshold:	no data available
pH	no data available
Boiling point/range	73.4°C (1013 hPa) Method: OECD TG 103
Flash point	13°C Method: DIN EN ISO 13736
Evaporation rate	no data available
Lower explosion limit	5.5%(V) tested substance: methanol
Upper explosion limit	44%(V) tested substance: methanol
Vapour pressure	ca. 120 hPa (20°C)
Density	ca. 0.92 g/cm3 (20°C) Method: OECD Test Guideline 109
Water solubility:	partly miscible partial decomposition by hydrolysis
Partition coefficient: n-octanol/water	not determined
Thermal decomposition:	not determined
Viscosity, dynamic	not determined

9.2 Other safety information

Ignition temperature	425°C Method: DIN 51 794

SECTION 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
Vapors may form explosive mixture with air.
10.4 Conditions to avoid:
Hydrolyses on contact with water. 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.
10.5 Incompatible materials
water
10.6 Hazardous decomposition products
Methanol 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
No toxicological studies are available on the mixture.
Acute oral toxicity
Acute toxicity estimate : 200 mg/kg
Method: Calculation method
Acute inhalation toxicity
Acute toxicity estimate: 6 mg/l / 4 h / vapour
Method: Calculation method
Acute dermal toxicity
Acute toxicity estimate: 601 mg/kg
Method: Calculation method
Assessment of STOT single exposure
Causes damage to organs.
Human experience
Liver and kidney injuries may occur.
Further information
The properties of this product which are hazardous to health have been calculated as per regulation (EC) No. 1272/2008.
See section 2 "Hazards Identification".

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
No ecotoxicological studies are available on the mixture.
12.2 Persistence and degradability

Biodegradability	No data available

Bioaccumulative potential

Bioaccumulation	No data available

Mobility in soil

Mobility	No data available

12.3 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.4 Other adverse effects
Further Information
An Expert Judgment stated that no classification is necessary based on present knowledge.

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

Transport on land (ADR/RID/GGVSEB)

UN number:	UN 1230
UN proper shipping name:	METHANOL SOLUTION
Transport hazard class(es):	3 (6.1)
Packing group:	II
Environmental hazards:	--
Special precautions for user:	Yes
ADR:	Tunnel Restriction Code: (D/E)
	Keep separate from foodstuffs, luxury foods, feedstuffs

Inland waterway transport (ADN/GGVSEB (Germany))

UN number:	UN 1230
UN proper shipping name:	METHANOL SOLUTION
Transport hazard class	3 (6.1)
Packaging group:	II
Environmental hazards:	--
Special precautions for user:	Yes
	Keep separate from foodstuffs, luxury foods, feedstuffs

Air transport ICAO-TI/IATA-DGR

UN number:	UN 1230
UN proper shipping name:	Methanol Solution
Transport hazard class(es):	3 (6.1)
Packing group:	II
Environmental hazards:	--
Special precautions for user:	Yes

IATA-C: Subsidiary risk: 6.1 (not to label)

FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity - Regulation!

IATA-P: Subsidiary risk: 6.1 (not to label)

FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity- Regulation!

Keep separate from foodstuffs, luxury foods, feedstuffs

Sea transport IMDG-Code/GGVSee (Germany)

UN number:	UN 1230
UN proper shipping name:	METHANOL SOLUTION
Transport hazard class(es):	3 (6.1)
Packing group:	II
Environmental hazards:	--
Special precautions for user:	Yes

EmS: F-E,S-D

Clear of living quarters.

FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity -Regulation! Keep separate from foodstuffs, luxury foods, feedstuffs

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

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: ACUTE TOXIC (H2)
quantity: 50 t 200 t
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: 5000 t 50000 t
ATTENTION: Classification into hazard category P5c is a minimum classification. Only the operator may estimate if the product is covered by hazard category P5a or P5c. For P5a and P5b different qualifying quantities are valid.
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: Methanol (22)
quantity: 500 t 5000 t

Chemical safety assessment

No chemical safety assessment is required for this product.

SECTION 16: OTHER INFORMATION

Relevant H phrases from chapter 3

H225 Highly flammable liquid and vapor.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H331 Toxic if inhaled.
H370 Causes damage to organs.

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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