SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Number: SC-5902

Chemical name: Octyltriethoxysilane

CAS No. 2943-75-1

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

Recommended use: Industrial use. Intermediate chemcial

Uses advised against: Not for food, drug, pesticide or biocidal product use

1.3 Details of the supplier of the safety data sheet

Manufactured/Supplied by Silsource Inc.

ADDRESS: 10625 Bryant Sideroad, Port Perry, Ontario, L9L 2C6

CHEMICAL EMERGENCY ONLY (PHONE): CANUTEC (613) 996-6666 [24 Hr.]

SECTION 2: HAZARD IDENTIFICATION

2.1 Physical hazards Flammable liquids Category 4

Health hazards Skin corrosion/irritation Category 2

OSHA defined hazards Not classified.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word : Warning

Hazard statement Combustible liquid. Causes skin irritation.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wash thoroughly After handling. Wear protective gloves/eye protection/face protection.

Response If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep cool.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards – none

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

CHEMICAL NAME	CAS#	%
Octyltriethoxysilane	2943-75-1	> 90
Ethanol	64-17-5	< 0.1

Composition comments Components not listed are either non-hazardous or are below reportable limits.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

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

In case of skin contact

Remove contaminated clothing immediately. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

In case of eye contact

Rinse thoroughly with plenty of water. Get medical attention if irritation develops and persists.

If swallowed

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

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Use dry powder or foam in large fires and carbon dioxide, dry powder, and sand in small fires.

Water can be used to cool containers affected by the fire.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire. Note: Water sprayed on burning material may generate ethanol.

5.2 Special hazards arising from the substance or mixture

Be careful, it may decompose under fire or high temperature to produce toxic fumes. The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed. This material may generate formaldehyde at temperatures greater than 150°C (300°F) in air or the presence of oxygen.

5.3 Specific Advice for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

5.4 Further information

Use water spray to cool unopened containers. Combustible liquid. Reacts slowly with water and moisture in air to form ethyl alcohol and silica.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. In case of spills, beware of slippery floors and surfaces. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil,

etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.
Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.
For waste disposal, see section 13 of the SDS.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.
Wear suitable protective equipment. Prevent fumes. Keep away from heat / sparks / open flames / hot surfaces. **No smoking.**
Take measures to prevent static electricity from accumulating. Use explosion-proof equipment.
Wash hands and face thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive.

7.3 Specific end uses

no data available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethanol (CAS 64-17-5)	PEL	1900 mg/m3
		1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethanol (CAS 64-17-5)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Skin protection

Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended Exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid.
Form	Liquid.
Color	Water white.
Odor	Characteristic ester odor.
Odor threshold	Not available.
Melting point/freezing point	Not determined.
Initial boiling point and boiling range	Not available.
Flash point	149.0 °F (65.0 °C)
Evaporation rate	< 1 (n-Butyl acetate = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not available.
Flammability limit – upper (%)	Not available.
pH:	No data available
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not determined.
Vapor density	> 1 (25 °C) (Air = 1)
Relative density	0.875 (25 °C)
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not determined.

9.2 Other information

Percent volatile	Not determined.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2 Chemical stability	Material is stable under normal conditions.
10.3 Possibility of hazardous	Reacts with water and moisture in air liberating ethanol.

reactions

10.4 Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials**.**

10.5 Incompatible materials Water, moisture. Strong oxidizing agents.

10.6 Hazardous decomposition products Thermal decomposition or combustion may liberate toxic gases or fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on likely routes of exposure

Inhalation Prolonged inhalation may be harmful.

Skin contact Causes skin irritation.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion Do not ingest. This product hydrolyzes in the stomach to form ethanol.

Symptoms related to the physical, chemical and toxicological characteristics Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Ethanol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Rat	20000 ppm, 10 Hours
Oral		
LD50	Rat	6.2 g/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Further information Not for injection into humans.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude The possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Ethanol (CAS 64-17-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia obtusa)	10100 - 11200 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	13480 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethanol (CAS 64-17-5) -0.31

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the Waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14: TRANSPORT INFORMATION

DOT

UN number NA1993

UN proper shipping name Combustible liquid, n.o.s. (Octyltriethoxysilane)

Transport hazard class(es)

Class Combustible liq

Subsidiary risk -

Label(s) None

Packing group III

Special precautions for user This material is classified as a combustible liquid when shipped in bulk packaging >119 G/450 L. This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less. Read safety instructions, SDS and emergency procedures before handling.

Special provisions IB3, T1, T4, TP1

Packaging exceptions 150

Packaging non bulk 203

Packaging bulk 241

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

SECTION 15: REGULATORY INFORMATION

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are listed on or exempt from the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethanol (CAS 64-17-5) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard – No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112 Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Ethanol (CAS 64-17-5)

US. New Jersey Worker and Community Right-to-Know Act

Ethanol (CAS 64-17-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethanol (CAS 64-17-5)

US. Rhode Island RTK

Ethanol (CAS 64-17-5)

US. California Proposition 65

This product contains the following chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm:

None known.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

SECTION 16: OTHER INFORMATION

HMIS® ratings

Health: 2
Flammability: 2
Physical hazard: 1

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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