SAFETY DATA SHEET

948KIT SUPER SEAL ADVANCED
Revision Date: May 6, 2015 **Version:** 2.2
Supersedes: February 1, 2012
Sid Harvey item # 948KIT SDS # Z0544

Section 1 – Identification of the Substance/Mixture and of the Company/Undertaking

Product Name: 948KIT SUPER SEAL ADVANCED
Part Number(s): 948KIT
Product Class: HVAC and refrigeration additive
Manufacturer: Cliplight Manufacturing
961 Alness Street
Toronto, ON M3J 2J1, Canada
email: sales@cliplight.com
Telephone: +1 416 736 9036

Emergency Telephone: +1 613 996 6666 (Canutec)

Section 2 – Hazards Identification

GHS Classification

Flammable liquids: Category 3
Skin irritation: Category 3
Eye irritation: Category 1
Skin Sensitization: Category 1
Hazardous to the aquatic environment (Chronic 3)

Label elements:

Danger

Hazard statements:
H226 Flammable liquid and vapour
H316 Causes mild skin irritation
H318 Causes serious eye damage
H317 May cause an allergic skin reaction
H412 Harmful to aquatic life with long lasting effects

Precautionary statements:
P280 Wear protective gloves and eye protection.
P261 Avoid breathing mist, vapour or spray.
P273 Avoid release to the environment.
P302 + P352 IF ON SKIN: Wash with soap and plenty of water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately seek medical attention.
P501 Dispose of contents and container in accordance with local, state and national regulations.

Other hazards
None known.

Section 3 – Composition/Information on Ingredients

Ingredient Name	CAS No.	EC No.	Composition, wt%
Triethylorthoformate	122-51-0	204-550-4	20 - 40
Trimethoxyvinylsilane	2768-02-7	220-449-8	7 - 13
N-(3-(trimethoxysilyl)propyl) ethylenediamine	1760-24-3	217-164-6	7 - 13
Trimethoxy(methyl)silane	1185-55-3	214-685-0	1 - 2

Remaining components are not classified as hazardous under the GHS or 29 CFR 1910.1200.

Section 4 – First Aid Measures

Inhalation
Remove person to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

Eye Contact
Remove contact lenses and immediately flush eyes with copious amounts of water for at least 15 minutes. Obtain medical attention.

Skin Contact
Immediately wash skin with soap and plenty of water. If irritation persists or if contact has been prolonged, obtain medical attention. Wash contaminated clothing before reuse.

Ingestion
Do NOT induce vomiting. Wash out mouth with water provided person is conscious. Call a physician.

Acute and Delayed Symptoms
This product is expected to react with moisture in the gastrointestinal tract to form methanol. Symptoms may be delayed and include headache, dizziness, nausea, lack of coordination, and confusion.

Special Treatment Needed
Get medical treatment immediately.

Section 5 – Firefighting Measures

Extinguishing Media
DO NOT USE WATER STREAM. Use carbon dioxide, dry chemical powder, alcohol-resistant foam or water spray.

Special hazards arising from the substance or mixture
Burning in a fire produces carbon oxides, silicon oxides, smoke and fumes.

Advice for firefighters
Self-contained breathing apparatus and protective clothing if required.
Vapours may travel considerable distance to a source of ignition and flash back.

Section 6 – Accidental Release Measures

Personal precautions
Shut off all sources of ignition. Wear chemical-resistant gloves and chemical safety goggles or safety glasses with side shields. Provide adequate ventilation.

Environmental precautions
Provide adequate ventilation. Avoid runoff to sewers and waterways.

Methods and materials for containment and cleaning up
Cover spill with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 – Handling and Storage

Precautions for safe handling
Avoid breathing vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. See section 8 for protective clothing. Use away from heat, sparks, open flame or any other ignition source. Wash hands thoroughly after handling.

Conditions for safe storage
Keep away from heat, sparks, and open flame. In the opened canister, this product is sensitive to moisture.

Section 8 – Exposure Controls/Personal Protection

Control Parameters
None of the components of this product have occupational exposure limit values.

Engineering Controls
General room ventilation is expected to be sufficient for use of the product.

Protective Equipment
Use protective gloves. Use eye protection and chemical protective clothing.

Hygiene
Wash thoroughly after handling. Wash contaminated clothing before reuse.

Section 9 – Physical and Chemical Properties

Appearance	Clear colourless liquid
Odour	Ethereal
Odour threshold	No data available
pH	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	30°C (86°F)
Evaporation rate	No data available
Flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Density	0.95 g/cm3 @ 25°C (77°F)
Water Solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available

Section 10 – Stability and Reactivity

Reactivity
Reacts with water or moisture

Chemical stability
Stable under recommended storage conditions

Possibility of hazardous reactions
Unlikely

Conditions to avoid
Moisture, heat, flames and sparks

Incompatible materials
Acids, strong oxidizing agents

Hazardous decomposition products
Reacts with water or moisture to form methanol. In a fire, carbon monoxide, carbon dioxide and silicon oxides are formed.

Section 11 – Toxicological Information

The toxicological properties of this product have not been investigated. Information for some components is provided below.

Acute toxicity

Oral LD50 rat:	Triethylorthoformate ï 7060 mg/kg
	Trimethoxyvinylsilane - 7340 - 7460 mg/kg
	N-(3-(trimethoxysilyl)propyl)ethylenediamine - 2995 mg/kg
	Trimethoxy(methyl)silane - 11685 mg/kg

Skin LD50 rabbit: Triethylorthoformate ï 17820 mg/kg
Trimethoxyvinylsilane ï 3460 - 4000 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine - >2000 mg/kg
Trimethoxy(methyl)silane ï >9500 mg/kg

Skin LD50 guinea pig: Triethylorthoformate - >8910 mg/kg

Inhalation LC50 rat: Trimethoxyvinylsilane - 16.79 mg/l
N-(3-(trimethoxysilyl)propyl)ethylenediamine ï 1.49 ï 2.44 mg/l
Trimethoxy(methyl)silane ï >42.1 mg/l

Skin corrosion/irritation

Rabbit: Triethylorthoformate ï slightly irritating
Trimethoxyvinylsilane - no irritation
N-(3-(trimethoxysilyl)propyl)ethylenediamine ï no irritation
Trimethoxy(methyl)silane ï no irritation

Serious eye damage/irritation

Rabbit: Triethylorthoformate ï no irritation
Trimethoxyvinylsilane - no irritation
N-(3-(trimethoxysilyl)propyl)ethylenediamine - strongly irritating
Trimethoxy(methyl)silane ï no irritation

Respiratory or skin sensitization

Guinea pig: Trimethoxyvinylsilane - did not elicit a delayed contact hypersensitivity response
N-(3-(trimethoxysilyl)propyl)ethylenediamine - may cause sensitization by skin contact
Trimethoxy(methyl)silane ï no irritation

Repeated Dose Toxicity

Oral rat: Trimethoxyvinylsilane
NOAEL: <62.5 mg/kg
Lowest Observable Effect Level ï 62.5 mg/kg

N-(3-(trimethoxysilyl)propyl)ethylenediamine
NOAEL: >500 mg/kg
Exposure time: 28 d

Trimethoxy(methyl)silane
NOAEL: 50 mg/kg
Exposure time: 28 d

Inhalation rat: Trimethoxyvinylsilane
NOAEL ï 10 mg/l
Lowest Observable Effect Level - 100 mg/kg

Germ cell mutagenicity

N-(3-(trimethoxysilyl)propyl)ethylenediamine: negative (Ames test)

Carcinogenicity
None of the components of this product is identified as a carcinogen by IARC, ACGIH, NTP or OSHA.

Reproductive toxicity
N-(3-(trimethoxysilyl)propyl)ethylenediamine
No Observed Adverse Effect Level (NOAEL):
500 mg/kg/day (developmental and maternal toxicity)

Oral ratmale:	Trimethoxyvinylsilane NOAEL P1 ï 1000 mg/kg NOAEL F1 ï 1000 mg/kg
Oral ratfemale:	Trimethoxyvinylsilane NOAEL P1 ï 250 mg/kg NOAEL F1 ï 1000 mg/kg

Specific target organ toxicity – single exposure
No data available

Aspiration hazard
No data available

Potential Health Effects:

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin Contact: May be harmful if absorbed through skin. Causes mild skin irritation.
Eye Contact: Causes eye irritation.
Ingestion: May be harmful if swallowed.

Section 12 – Ecological Information

No data are available for the ecological effects of this product; information on some components is provided below.
The silane components of the product degrade through hydrolysis into alcohols and silanol and/or siloxanol compounds.
The product is not expected to be readily biodegradable.

Toxicity to fish:	Trimethoxyvinylsilane LC50 ï 96 h Species: Brachydanio Result: >100 mg/l
	Trimethoxyvinylsilane LC50 ï 96 h Species: Oncorhynchus mykiss Result: >191 mg/l
	N-(3-(trimethoxysilyl)propyl)ethylenediamine LC50 Species: Lepomis macrochirus Result: >100 mg/l

Toxicity to other organisms:	Trimethoxyvinylsilane EC50 ï 48 h Species: Daphnia magna Result: >100 mg/l N-(3-(trimethoxysilyl)propyl)ethylenediamine EC50 ï 48 h Species: Daphnia magna Result: 87.4 mg/l
Toxicity to algae:	Trimethoxyvinylsilane EC50 ï 72 h Species: Desmodesmus subspicatus Result: >100 mg/l N-(3-(trimethoxysilyl)propyl)ethylenediamine EC50 - 96 h Species: Pseudokirchneriella subcapitata Result: 8.8 mg/l N-(3-(trimethoxysilyl)propyl)ethylenediamine NOEC Species: Pseudokirchneriella subcapitata Result: 3.1 mg/l
Toxicity to microorganisms:	Trimethoxyvinylsilane NOEC Species: Bacteria Result: >1000 mg/l Exposure time: 3 h

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

Section 13 – Disposal Considerations

Product
Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging
Dispose of as product.

Section 14 – Transport Information

DOT: Consumer Commodity, ORM-D
OCEAN (IMDG): UN1993, FLAMMABLE LIQUID, N.O.S. (Ethyl Orthoformate & Trimethoxyvinylsilane), Class 3, PG III, Ltd Qty, EMS-No: F-E, S-E
AIR (IATA): UN1993, FLAMMABLE LIQUID, N.O.S. (Ethyl Orthoformate & Trimethoxyvinylsilane), Class 3, PG III

Section 15 – Regulatory Information

All components of this product are on the Canadian Domestic Substances List (DSL).

All components of this product are listed in the U.S. Toxic Substances Control Act (TSCA) Inventory.

All components of this product are on or in compliance with the Australian Inventory of Chemical Substances (AICS).

A chemical safety assessment has not been carried out for this product.

Section 16 – Other Information

HMIS CLASSIFICATION

Health Hazard:	2
Flammability:	3
Physical Hazards:	0

Notes to this Revision

This version 2.2 (May 6, 2015) has been updated from version 2.1 to conform to the requirements of OSHA Hazard Communications Standard 2012 and EU (No.) 453/2010 from June 1, 2015. The SDS continues to meet requirements of the GHS.

Information in section 2 has been updated to reflect potential hazards to the eye and to the aquatic environment.

Information on some components has been updated in Section 11 (Toxicological Information) and in Section 12 (Ecological Information).

Material Safety Data Sheet

Date of Preparation: February 1, 2012

Section 1 – Chemical Product and Company Identification

Product Name: SUPER SEAL ADVANCED™ LARGE SYSTEMS
Part Number(s): 948KIT
Product Class: HVAC and A/C refrigeration additive
Manufacturer: Cliplight Manufacturing
961 Alness Street
Toronto, ON M3J 2J1, Canada
Telephone: +1 416 736 9036 **Emergency Telephone:** +1 416 736 9036

Section 2 – Hazards Identification

Potential Health Effects:

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes serious eye irritation.
Ingestion: May be harmful if swallowed.

HMIS CLASSIFICATION

Health Hazard:	2
Flammability:	3
Physical Hazards:	0

WHMIS Classification

B2 Flammable liquid
D2B Moderate eye irritant

GHS Classification

Flammable liquids: Category 3
Skin irritation: Category 3
Eye irritation: Category 2A

GHS Label elements:

Warning

Hazard statements:
H226 Flammable liquid and vapour.
H316 Causes mild skin irritation.
H319 Causes serious eye irritation.

Precautionary statements:
P280 Wear protective gloves/eye protection/face protection
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Section 3 – Composition/ Information on Ingredients

Ingredient Name	CAS No.	EC No.	Composition, wt%
Triethylorthoformate	122-51-0	204-550-4	30 - 50
Trimethoxyvinylsilane	2768-02-7	220-449-8	7 - 13
N-(3-(trimethoxysilyl)propyl) ethylenediamine	1760-24-3	217-164-6	7 - 13
Trimethoxy(methyl)silane	1185-55-3	214-685-0	1 - 5

Section 4 – Emergency and First Aid Procedures

General: Show this safety data sheet to physician/ medical personnel.

Inhalation: Remove person to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

Eye Contact: Remove contact lenses and immediately flush eyes with copious amounts of water for at least 15 minutes. Obtain medical attention.

Skin Contact: Immediately wash skin with soap and copious amounts of water. If irritation persists or if contact has been prolonged, obtain medical attention.

Ingestion: Do NOT induce vomiting. Wash out mouth with water provided person is conscious. Call a physician.

Note to Physician: This product is expected to react with moisture in the acid contents of the stomach to form methanol.

Section 5 – Fire Fighting Measures

Flash Point: 30°C
Extinguishing Media: DO NOT USE WATER. Use carbon dioxide, dry chemical powder, or appropriate foam.
Special Protective Equipment: Self-contained breathing apparatus and protective clothing as required.
Unusual Fire or Explosion Hazards: Material may decompose to form flammable and/or explosive mixtures in air. Vapour may travel considerable distance to source of ignition and flash back.

Section 6 – Spill, Leak, and Disposal Procedures

Avoid runoff to sewers and waterways. Shut off all sources of ignition. Wear chemical-resistant gloves and chemical safety goggles. Cover spill with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 – Handling and Storage

Handling: Avoid breathing vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage: Keep away from heat, sparks, and open flame. In the opened canister, this product is sensitive to moisture.

Section 8 – Exposure Controls / Personal Protection

Protective Equipment: Use protective gloves. Use eye protection and chemical protective clothing.
Engineering Controls: Have eye bath and safety shower available. Use non-sparking tools.
General: Wash thoroughly after handling. Wash contaminated clothing before re-use.

Section 9 – Physical and Chemical Properties

Appearance	clear liquid colourless
Odour	ethereal
Odour threshold	No data available
pH	Not applicable
Melting point/freezing point	Not applicable
Initial boiling point/ boiling range	No data available
Flash point	30°C
Evaporation rate	No data available
Flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Density	0.95 g/cm3 @ 25°C
Solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity.	No data available

Section 10 – Stability and Reactivity

Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: Unlikely
Conditions to avoid: Moisture; heat, flames and sparks.
Materials to avoid: Acids, strong oxidizing agents
Hazardous decomposition products: Carbon monoxide, carbon dioxide and silicon oxides formed by combustion. Reacts with water or moisture to form methanol.

Section 11– Toxicological Information

See section 2 for routes of exposure and health effects.

The toxicological properties of this product have not been investigated. Information for hazardous components is provided below.

Oral LD50 rat:
Triethylorthoformate – 7060 mg/kg
Trimethoxyvinylsilane >7300 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine >2000 mg/kg
Trimethoxy(methyl)silane -11,747 mg/kg

Skin LD50 rabbit:
Triethylorthoformate – 20 mL/kg
Trimethoxyvinylsilane >3400 mg/kg;
N-(3-(trimethoxysilyl)propyl)ethylenediamine >2000 mg/kg
Trimethoxy(methyl)silane – no data available

Eye Irritation rabbit:
Triethylorthoformate – moderate irritation
Trimethoxyvinylsilane - mild irritation
N-(3-(trimethoxysilyl)propyl)ethylenediamine – severe irritation
Trimethoxy(methyl)silane – mild irritation

Section 12– Ecological Information

No data are available for the ecological effects of this product.
The silane components of the product degrade through hydrolysis into alcohols and silanol and/or siloxanol compounds.
The product is not expected to be readily biodegradable.

Section 13– Product Disposal

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is flammable. Observe all federal, state, and local environmental regulations.

Section 14 –Transport Information

IMDG/IACO/IATA
Shipping Name: FLAMMABLE LIQUID, N.O.S. (triethyl orthoformate)
UN #: 1993
Class: 3
Packing Group: III

U.S. Department of Transportation (DOT):
Consumer commodity ORM-D

Section 15 –Regulatory Information

All components of this product are on the Canadian Domestic Substances List (DSL).

All components of this product are listed in the U.S. Toxic Substances Control Act (TSCA) Inventory

Section 16 –Other Information

All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency. Conditions of use are beyond our control therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

~~MSDS Number Z0438~~

Sid Harvey Item number – 944Kit , 947Kit and 948Kit

Manufactures Product Name – SUPER SEAL HVACR™, SUPER SEAL ACR™

Material Safety Data Sheet

Date of Preparation: April 4, 2007

Section 1 – Chemical Product and Company Identification

Product Name: SUPER SEAL HVACR™; SUPER SEAL ACR™
Part Number(s): 944 KIT; 947 KIT
Product Class: HVAC and refrigeration additive
Manufacturer: Cliplight Manufacturing
961 Alness Street
Toronto, ON M3J 2J1, Canada
Telephone: +1 416 736 9036 **Emergency Telephone:** +1 416 736 9036

Section 2 – Composition/ Information on Ingredients

Ingredient Name	CAS No.	EC No.	Composition, wt%
Vinyltrimethoxysilane	2768-02-7	220-449-8	10 - 30
N-Beta(aminoethyl)-gamma-aminopropyltrimethoxysilane	1760-24-3	217-164-6	5 - 10
Methyltrimethoxysilane	1185-55-3	214-685-0	1 - 5

Section 3 – Hazards Identification

Primary Entry Routes: Skin, inhalation and ingestion

Target Organs: Eyes, skin, respiratory system, liver, kidney, heart

Effects of Overexposure:

Swallowing: Product generates methyl alcohol which may cause blindness and possibly death if swallowed.

Inhalation: Low concentrations of vapor may cause irritation of the respiratory tract, nasal discomfort and discharge, chest pain and coughing. Prolonged overexposure may result in the inhalation of harmful or potentially fatal amounts of material. (R37)

Skin: Causes irritation with discomfort, local redness and possible swelling. Effects may be prolonged. (R38)

Eye Contact: Liquid or vapor causes irritation, experienced as stinging, excess blinking and tear production, with excess redness and swelling of the conjunctiva. Corneal injury may occur. (R36, R41)

Chronic Effects: May cause a severe cumulative dermatitis. Vapor may cause lung injury.

See Section 16 for risk and safety phrases.

Section 4 – Emergency and First Aid Procedures

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

Eye Contact: Remove contact lenses and immediately flush eyes with water and continue washing for several minutes. Obtain medical attention.

Skin Contact: Remove contaminated clothing. Wash with soap and water. If irritation persists or if contact has been prolonged, obtain medical attention.

Ingestion: If patient is fully conscious, give two glasses of water. Induce vomiting. Obtain medical attention without delay. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whiskey. For children, give proportionally less liquor, according to weight.

Note to Physician: This product reacts with moisture in the acid contents of the stomach to form methanol.

Section 5 – Fire Fighting Measures

Flash Point: 33°C

Flash Point Method: Pensky-Martens Closed Cup

Extinguishing Media: CO2/ Dry chemicals/Foam

Special Protective Equipment: Self-contained breathing apparatus and protective clothing.

Unusual Fire or Explosion Hazards: Vapors form from this product and may travel or be moved by air currents and ignited by pilot light or other flames and ignition sources at locations distant from product handling point.

When this material is exposed to extreme heat, as in a fire, it may polymerize and rupture a closed container.
Burning can produce oxides of carbon, nitrogen and silicon. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract.

Section 6 – Spill, Leak, and Disposal Procedures

Avoid runoff to sewers or waterways. Soak up small spills with absorbent material. Larger spills should be collected for disposal. Extinguish and do not turn on any ignition source until the area is determined to be free from fire or explosion hazard. Avoid contact with eyes. Wear suitable protective equipment. Avoid contact with liquid and vapors.

Section 7 – Handling and Storage

Respiratory protection: Use self-contained breathing apparatus in high vapor concentrations.

Ventilation: This product should be stored and handled in closed equipment to keep vapors in and moisture out. When this is done, general room ventilation is expected to be satisfactory

Section 8 – Exposure Controls / Personal Protection

Protective Equipment: Use protective gloves; recommended order of use is 4H, butyl, neoprene, nitrile (NBR) and PVC-coated. Use eye protection and chemical protective clothing. Have eye bath and safety shower available.

Section 9 – Physical and Chemical Properties

Physical State: Liquid

Appearance/Odor: Clear, pale yellow/etheral odor

% Volatile: N/A

Evaporation Rate: N/A

Boiling Range: 100 – 260°C

Vapor Density (Air=1): Heavier than air

Specific Gravity (@ 20°C): 0.975

Vapor Pressure: N/A

Section 10 – Stability and Reactivity

Stability: Stable

Polymerization: Hazardous polymerization may occur at temperatures above 150°C.

Incompatibilities & Conditions to Avoid: Reacts with water or moisture to form methanol.

Section 11– Toxicological Information

See section 3 for routes of exposure and health effects.

There may be a delay of several hours between swallowing methanol and onset of signs and symptoms. The effects observed are in part due to acidosis and partially to cerebral edema. Visual effects include blurred or double vision, changes in color perception, restriction of visual fields, and complete blindness. Ingestion of moderate quantities of methanol also produces metabolic acidosis. Onset of symptoms may be delayed up to 48 hours. Ingestion of as little as 10 ml has caused blindness**.** With massive overdoses, liver, kidney, and heart muscle injuries have been described. 60-200ml of methanol is a fatal dose for most adults.

Oral LD50 rat: Vinyltrimethoxysilane >7300 mg/kg; N-Beta(aminoethyl)-gamma-aminopropyltrimethoxysilane >2000 mg/kg
Skin LD50 rabbit: Vinyltrimethoxysilane >3400 mg/kg; N-Beta(aminoethyl)-gamma-aminopropyltrimethoxysilane >2000 mg/kg

Section 12– Ecological Information

This product is not readily biodegradable. Avoid runoff to sewers and waterways.

Section 13– Product Disposal

See section 6. Incinerate in furnace where permitted. Otherwise, dispose of product according to local regulations.

Section 14 –Transport Information

IMDG/IACO/IATA
Shipping Name: FLAMMABLE LIQUID, N.O.S. (Vinyltrimethoxysilane)
UN #: 1993
Class: 3
Packing Group: III

Note: When shipping within the USA by ground transportation these products are non-regulated. When shipping by air freight within the USA these products are regulated.

Section 15 –Regulatory Information

Hazard Symbol: Irritant: Xi
Risk Phrases: R10 – Flammable
R36/37/38 – Irritating to eyes, respiratory system and skin
R41 – Risk of serious damage to eyes
Safety Phrases: S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39 – wear suitable protective clothing, gloves and eye/face protection
S24/25 – avoid contact with skin and eyes

Section 16 –Other Information

Risk Phrases: R10 – Flammable
R36/37/38 – Irritating to eyes, respiratory system and skin
R41 – Risk of serious damage to eyes