

**MATERIAL SAFETY DATA SHEET**  
**SUPER SEAL TOTAL™ 1.5 to 5 Tons**

Revision Date: February 21, 2014

Version: 2.0

**Section 1 – Product and Company Identification****Product Name:** SUPER SEAL TOTAL™ 2**Part Number(s):** 972KIT**Product Class:** HVAC and refrigeration additive**Manufacturer:** Climplight Manufacturing  
961 Alness Street  
Toronto, ON M3J 2J1, Canada**email:** sales@climplight.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

Skin sensitization: Category 1

Serious eye damage/irritation: Category 1

Acute toxicity, inhalation: Category 4

Long-term (Chronic) Aquatic Hazard: Category 3

**GHS Label elements, including precautionary statements**

Pictograms



Signal word

Danger

**Hazard statements:**

H226 Flammable liquid and vapour

H316 Causes mild skin irritation

H317 May cause an allergic skin reaction

H318 Causes serious eye damage

H332 Harmful if inhaled

H412 Harmful to aquatic life with long lasting effects

**Precautionary statements:**

P261 Avoid breathing gas/mist/vapour/spray.

P273 Avoid release to the environment.

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.

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**WHMIS Classification**

B2 Flammable liquid  
D2B Moderate eye irritant

**OSHA Classification**

Hazardous

**HMIS CLASSIFICATION**

Health Hazard: 2  
Flammability: 3  
Physical Hazards: 1

**Section 3 – Composition/ Information on Ingredients**

Ingredient Name	CAS No.	EC No.	Composition, wt%
Triethylorthoformate	122-51-0	204-550-4	30 - 60
Trimethoxyvinylsilane	2768-02-7	220-449-8	5 - 10
N-(3-(trimethoxysilyl)propyl) ethylenediamine	1760-24-3	217-164-6	3 - 7
Trimethoxy(methyl)silane	1185-55-3	214-685-0	1 - 5

**Section 4 – First-Aid Measures**

**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.

**Section 5 – Fire-Fighting Measures**

**Extinguishing media**

Use carbon dioxide, dry chemical powder, or appropriate foam.

**Special hazards arising from the substance or mixture**

Carbon dioxide/monoxide, nitrogen oxides, silicon oxide

**Advice for firefighters**

Self-contained breathing apparatus and protective clothing as required.

Vapour may travel considerable distance to source of ignition and flash back.

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### Section 6 – Accidental Release Measures

**Personal Precautions**

Wear chemical-resistant gloves and chemical safety goggles.

**Environmental Precautions**

Shut off all sources of ignition. 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.

**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 listed occupational exposure limits.

**Engineering Controls:** Have eye bath available. Use non-sparking tools.

**Protective Equipment:** Use protective gloves. Use eye protection.

**Hygiene:** Wash thoroughly after handling. Wash contaminated clothing before re-use.

### Section 9 – Physical and Chemical Properties

Appearance	Clear pale yellow liquid
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	33°C (91°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/cm <sup>3</sup> @ 25°C (77°F)
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

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**Section 10 – Stability and Reactivity**

**Reactivity:** Reacts with water.

**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.

**Section 11 – Toxicological Information**

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

**Acute toxicity**

Oral LD50 rat:	Triethylorthoformate: 7060 mg/kg
	Trimethoxyvinylsilane: >7300 mg/kg
	N-(3-(trimethoxysilyl)propyl)ethylenediamine: 2995 mg/kg
	Trimethoxy(methyl)silane: 11,747 mg/kg
Inhalation LC50 rat: (4 hr.)	Trimethoxyvinylsilane: 16.79 mg/l
	N-(3-(trimethoxysilyl)propyl)ethylenediamine: 1.49-2.44 mg/l
	Trimethoxy(methyl)silane: >42.1 mg/l
Skin LD50 rabbit:	Triethylorthoformate: 20 ml/kg
	Trimethoxyvinylsilane: >3400 mg/kg
	N-(3-(trimethoxysilyl)propyl)ethylenediamine: >2000 mg/kg
Skin LD50 rat:	Trimethoxy(methyl)silane: >9,500 mg/kg

**Skin corrosion/irritation**

rabbit      Triethylorthoformate – mild irritation – 24 h

**Serious eye damage/irritation**

rabbit      Triethylorthoformate – no irritation  
Trimethoxyvinylsilane - no eye irritation  
N-(3-(trimethoxysilyl)propyl)ethylenediamine – strongly irritating  
Trimethoxy(methyl)silane – no eye irritation

**Respiratory or skin sensitization**

N-(3-(trimethoxysilyl)propyl)ethylenediamine - guinea pig: may cause sensitization by skin contact

**Germ cell mutagenicity**

Trimethoxyvinylsilane – negative (bacteria)  
N-(3-(trimethoxysilyl)propyl)ethylenediamine – negative (Ames test)  
Trimethoxy(methyl)silane – negative (bacteria)

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**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)

**Specific target organ toxicity**

No data available

**Aspiration hazard**

No data available

**Potential Health Effects:**

**Inhalation:** May be harmful if inhaled.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes serious eye irritation.

**Ingestion:** May be harmful if swallowed.

**Section 12 – Ecological Information**

No data are available for the ecological effects of this product. Information for some components is provided below.

**Aquatic toxicity**

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Toxicity to fish	LC50 Species: Lepomis macrochirus Result: > 100 mg/l
Toxicity to other organisms	EC50 Species: Daphnia magna Result: 87.4 mg/l Exposure time: 48 h
Toxicity to algae	EC50 Species: Pseudokirchneriella subcapitata Result: 8.8 mg/l Exposure time: 96 h

N-(3-(trimethoxysilyl)propyl)ethylenediamine

NOEC  
Species: Pseudokirchneriella subcapitata  
Result: 3.1 mg/l

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Trimethoxyvinylsilane

Toxicity to fish                      LC50  
Species: Brachydanio rerio  
Result: > 100 mg/l

**Persistence and degradability**

The silane components of the product degrade through hydrolysis into alcohols and silanol and/or siloxanol compounds.

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Section 13 – Disposal Considerations**

**Product and Contaminated Packaging**

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**

**DOT/IMDG/IACO/IATA/TDG**

Shipping Name: FLAMMABLE LIQUID, N.O.S. (ethyl orthoformate)  
UN #: 1993  
Class: 3  
Packing Group: III

**Section 15 – Regulatory Information**

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

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

**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.