

SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

SUPER SEAL ADVANCED™ SMALL SYSTEMS**Revision Date:** January 31, 2013**Version:** 2.1**Supersedes:** February 1, 2012**Section 1 – Identification of the Substance/Mixture and of the Company/Undertaking****Product Name:** SUPER SEAL ADVANCED™ SMALL SYSTEMS**Part Number(s):** 947KIT**Product Class:** HVAC and refrigeration additive**Manufacturer:** Clight Manufacturing

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email: sales@clight.com**Telephone:** +1 416 736 9036 **Emergency Telephone:** +1 416 736 9036 (8 a.m. - 5 p.m. EST | UTC-5)**Section 2 – Hazards Identification****Classification according to EU Directives 67/548/EEC or 1999/45/EC****Symbols**

Xi Irritant

R-Phrases

R10 Flammable

R36/38 Irritating to eyes and skin

Full text of R-phrases for this section can be found in Section 16.

Classification according to Regulation (EC) No 1272/2008

Flammable liquids: Category 3

Skin irritation: Category 3

Eye irritation: Category 2A

Label elements:

Warning

Hazard statements:

H226 Flammable liquid and vapour

H316 Causes mild skin irritation

H320 Causes 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.

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Section 3 – Composition/ Information on Ingredients

Ingredient Name	CAS No.	EC No.	Composition, wt%	Classification 67/548/EEC	Classification (EC) No 1272/2008
Triethylorthoformate	122-51-0	204-550-4	60 - 100	Xi; R10, R38	Flammable liquids (Cat 3); H226 Skin irritation (Cat 3); H316
Trimethoxyvinylsilane	2768-02-7	220-449-8	1 - 5	Xn; R10, R20	Flammable liquids (Cat 2); H225
N-(3-(trimethoxysilyl)propyl) ethylenediamine	1760-24-3	217-164-6	1 - 5	C; R34, R52/53	Flammable liquids (Cat 4); H227 Skin irritation (Cat 2); H315 Serious eye damage (Cat 1); H317 Skin sensitization (Cat 1); H318 Hazardous to the aquatic environment (Chronic 2); H411
Trimethoxy(methyl)silane	1185-55-3	214-685-0	0.1 - 1	F; R11, R36/38	Flammable liquids (Cat 2); H225 Eye irritation (Cat 2B); H320

Full text of R-phrases and H-statements for this section can be found in Section 16.

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.**Note to Physician:** This product is expected to react with moisture in the acid contents of the stomach to form methanol.**Section 5 – Firefighting Measures****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.

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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 colourless liquid
Odour	ethereal
Flash point	30°C (86°F)
Density	0.95 g/cm ³ @ 25°C (77°F)

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

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 eye irritation.

Ingestion: May be harmful if swallowed.

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

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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.

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
	NOEC Species: Pseudokirchneriella subcapitata Result: 3.1 mg/l

Section 13– Disposal Considerations

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

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Section 15 –Regulatory Information

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

Section 16 –Other Information

Full text of R-phrases in sections 2 and 3:

R10	Flammable
R11	Highly flammable
R20	Harmful by inhalation
R34	Causes burns
R36/38	Irritating to eyes and skin
R38	Irritating to skin
R52/53	Harmful to aquatic organisms, may cause long-term effects in the aquatic environment

Full text of H-statements in sections 2 and 3:

H225 Highly flammable liquid and vapour
H226 Flammable liquid and vapour
H227 Combustible liquid
H315 Causes skin irritation
H316 Causes mild skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H320 Causes eye irritation
H411 Toxic to aquatic life with long lasting effects

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