

## FC09-08

## 2-(Perfluorooctyl)ethyl Trichlorosilane

Revised 19-November-2016

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 1. IDENTIFICATION OF SUBSTANCE
 

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**Product Identifier**

Product Name	2-(Perfluorooctyl)ethyl trichlorosilane
Catalog Number	FC09-08
Brand	Fluoryx Labs
CAS Number	78560-44-8

**Relevant Identified Uses of the Substance or Mixture and Uses Advised Against**

Identified uses	Laboratory chemicals. Manufacture of substances.
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**Details of the Supplier of the Safety Data Sheet**

Company	<b>Fluoryx Labs</b> 3650 Research Way, #22 Carson City, NV 89706 USA +1 (510) 329-9149 (Telephone) +1 (510) 686-8799 (Fax) www.fluoryx.com
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**Emergency Call (ChemTel)**

+01-813-248-0585 (International)
+1-800-255-3924 (USA)

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 2. HAZARDS IDENTIFICATION
 

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**Classification of the Substance or Mixture****GHS classification in accordance with 29 CFR 1910 (OSHA HCS)**

Skin corrosive (Category 1B), H314
Serious eye damage (Category 1), H318

**GHS Label Elements, Including Precautionary Statements**

Pictogram



Signal word

Danger

Hazard statements

H314

Causes severe skin burns and eye damage.

H318

Causes serious eye damage.

Precautionary phrases

P264

Wash skin thoroughly after handling.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P330 + P331

IF SWALLOWED: rinse mouth. Do NOT induce

P303 + P361 + P353	vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
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 call a POISON CENTER or doctor/physician.
P501	Dispose of contents/container to local regulations.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

<b>Synonyms</b>	1H,1H,2H,2H-Perfluorodecyltrichlorosilane; Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-
<b>Formula</b>	Cl <sub>3</sub> SiCH <sub>2</sub> CH <sub>2</sub> (CF <sub>2</sub> CF <sub>2</sub> ) <sub>4</sub> F; C <sub>10</sub> H <sub>4</sub> Cl <sub>3</sub> F <sub>17</sub> Si
<b>Molecular Weight</b>	581.56 g/mol
<b>CAS Number</b>	78560-44-8
<b>EC Number</b>	None

#### Hazardous Components

Component	Classification	Concentration
2-(Perfluorooctyl)ethyl trichlorosilane	Skin Corr. 1B; Eye Dam 1; H227, H314, H318	≤100%

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 4. FIRST AID MEASURES

#### Description of First Aid Measures

<b>General advice</b>	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
<b>If inhaled</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Consult a physician.
<b>In case of skin contact</b>	Remove/Take off immediately all contaminated clothing. Wash off with soap and plenty of water.
<b>In case of eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing eyes during transport to hospital.
<b>If swallowed</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
<b>Most Important Symptoms and Effects</b>	Severe burns may occur similar to those caused hydrogen chloride (HCl). Product liberates HCl when exposed to moisture in air, skin, eye, etc.
<b>Indications of Any Immediate Medical Attention</b>	No additional measures required.

### 5. FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use dry chemical or carbon dioxide.
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<b>Special Protective Equipment for Firefighters</b>	Wear self-contained breathing apparatus for fire fighting.
<b>Hazardous Combustion products</b>	Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride, hydrogen chloride.
<b>Further Information</b>	No data available.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid.
<b>Environmental Precautions</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
<b>Clean-Up Procedures:</b>	Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Absorb into dry earth, sand, or vermiculite. Transfer to a closable, labeled salvage container for disposal by an appropriate method. Do not flush with water.

**7. HANDLING AND STORAGE**

<b>Precautions for Safe Handling</b>	Handle only in a dry glove box. Avoid direct contact with the substance. Avoid contact with moisture, including moisture in the air.
<b>Conditions for Safe Storage</b>	Keep tightly closed. Store under dry, inert atmosphere: product reacts with water. Protect from atmospheric moisture. Store in a desiccator in a well ventilated area.
<b>Suitable Packaging:</b>	Moisture resistant packaging.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

<b>Components with Workplace Control Parameters</b> OSHA PEL	For hydrogen chloride, TWA: 5ppm.
<b>Appropriate Engineering Controls</b>	Use of a dry glove box required. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
<b>Personal Protective Equipment</b>	
<b>Eye/face protection:</b>	Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
<b>Skin protection</b>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and

**Body protection**

good laboratory practices. Wash and dry hands.

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**


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**Appearance**

Form

Liquid, clear

Color

Colorless

**Safety Data**

pH

Not measured

Melting point/freezing point

11 °C

Boiling point

90 °C @ 10 mm Hg

Flash point

&gt; 110 °C (closed cup)

Ignition temperature

No data available

Auto-ignition temperature

No data available

Lower explosion limit

No data available

Upper explosion limit

No data available

Vapor pressure

&lt; 2 mm Hg @ 25 °C

Density

1.72 g/mL @ 14 °C

Water solubility

Reacts with water to liberate HCl

Partition coefficient (*n*-octanol/water)

No data available

Relative vapor density (air = 1)

&gt; 1

Odor

Hydrochloric acid - pungent, irritating

Odor threshold

No data available

Evaporation rate

No data available

Oxidizing properties

No data available

Viscosity

No data available

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**10. STABILITY AND REACTIVITY**


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**Reactivity**

Reacts violently with water.

**Chemical Stability**

Stable in sealed containers under dry, inert atmosphere.

**Possibility of Hazardous Reactions:**

Reacts violently with water. Unless protected from moisture, product can polymerize, raising temperature and pressure, possibly rupturing

<b>Conditions to Avoid</b>	container. Store under inert (dry) atmosphere.
<b>Incompatible Materials</b>	Exposure to moisture. Avoid strong oxidizing agents, water, alcohols, and strong acids.
<b>Hazardous Decomposition Products</b>	In combustion, emits toxic fumes including carbon monoxide, carbon dioxide, hydrogen chloride, and hydrogen fluoride.

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## 11. TOXICOLOGICAL INFORMATION

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**Acute Toxicity**

Oral LD50	Rat, LD50: > 5000 mg/kg.
Inhalation LC50	No data available
Dermal LD50	No data available
Other information on acute toxicity	No data available

**Skin Corrosion/Irritation**

Skin corrosive (1B)

**Serious Eye Damage/Eye Irritation**

No data available

**Respiratory or Skin Sensitization**

No data available

**Germ Cell Mutagenicity**

No data available

**Carcinogenicity**

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive Toxicity**

No data available

**Teratogenicity**

No data available

**Specific Target Organ Toxicity (Globally Harmonized System)**

Single exposure	No data available
Repeated exposure	No data available

**Aspiration Hazard**

No data available

**Signs and Symptoms of Exposure**

<b>Skin contact:</b>	Blistering may occur. Progressive ulceration will occur if treatment is not immediate. May be immediate or delayed several hours.
<b>Eye contact:</b>	Corneal burns may occur. May cause permanent damage. May be delayed several hours.
<b>Ingestion:</b>	Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose.
<b>Inhalation:</b>	There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing.

**Synergistic Effects**

No data available

**Additional Information**

RTECS: Not available

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, shortness of breath, headache, nausea.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**12. ECOLOGICAL INFORMATION****Toxicity:**

No data available.

**Persistence and Degradability:**

Persistent organic pollutant

**Bio-Accumulation Potential:**

No data available

**Mobility in Soil:**

No data available

**Results of PBT and vPvB Assessment:**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other Adverse Effects:**

No data available

**13. DISPOSAL CONSIDERATIONS****Disposal Operations:**

Offer non-recyclable solutions to a licensed disposal company or contact Fluoryx to return unused product. Carefully hydrolyze material by mixing with water in a hood. Aqueous layer contains hydrochloric acid which should be neutralized. Organic layer may be incinerated. Alternately, absorb onto clay or vermiculite and dispose of absorbent material as solid waste.

**14. TRANSPORTATION INFORMATION****DOT (US)**

UN number: 2987  
 Class: 8  
 Packing group: II  
 Proper shipping name: Chlorosilanes, corrosive, n.o.s.  
 Reportable Quantity (RQ):  
 Poison Inhalation Hazard: No

**IMDG**

UN number: 2987  
 Class: 8  
 Packing group: II  
 Proper shipping name: CHLOROSILANES, CORROSIVE, N.O.S.

**IATA**

UN number: 2987  
 Class: 8  
 Packing group: II  
 Proper shipping name: Chlorosilanes, corrosive, n.o.s.  
 IATA Passenger: Not permitted for transport  
 EMS-No: F-A, S-B

**Shipping Hazard Label**

Corrosive liquid




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**15. REGULATORY INFORMATION**


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<b>European Community</b>	Regulated as a persistent organic pollutant.
<b>OSHA PEL</b>	For hydrogen chloride, TWA: 5ppm.
<b>TSCA Inventory</b>	Listed
<b>SARA 302 Components</b>	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
<b>SARA 313 Components</b>	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
<b>SARA 311/312 Hazards</b>	Acute Health Hazard
<b>Massachusetts Right to Know Components</b>	No components are subject to the Massachusetts Right to Know Act.
<b>Pennsylvania Right to Know Components</b>	
Trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane	
CAS-No. 78560-54-9	
<b>New Jersey Right to Know Components</b>	
Trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane	
CAS-No. 78560-54-9	
<b>California Prop. 65 Components</b>	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION**


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**Full Text of H-Statements Referred to Under Sections 2 and 3.**

Eye Dam.	Serious eye damage
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
Skin Corr.	Skin corrosion

<b>HMIS Rating</b>	Health	3
	Flammability	1
	Reactivity	1
<b>NFPA Rating</b>	Health	3
	Fire	1
	Reactivity	1
	Special	W

**Further Information**

For R&D use only. Not for drug, household, or other uses. The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal,

administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. Unless noted to the contrary, the technical information applies only to pure product.

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End of SDS