Fluoryx Labs

Safety Data Sheet

FC09-04E

2-(Perfluorobutyl)ethyl Triethoxysilane

Revised 14-November-2019

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name	2-(Perfluorobutyl)ethyl triethoxysilane
Catalog Number	FC09-04E
Brand	Fluoryx Labs
CAS Number	102390-98-7

Relevant identified uses of the Substance or mixture and uses advised against

Identified uses: Laboratory chemicals. Manufacture of substances

Details of the supplier of the safety data sheet

Company

Fluoryx Labs
3650 Research Way, #22
Carson City, NV 89706
USA
+1 (510) 329-9149 (Telephone)
+1 (510) 686-8799 (Fax)
www.fluoryx.com

Emergency call (Chemtel): +01-813-248-0585 (International)
+1-800-255-3924 (USA)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 4), H227
Skin irritation (Category 2), H315
Serious eye irritation (Category 2), H319
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram

Signal word: Warning

Hazard statement(s)

H227	Combustible liquid.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ eye protection/ face protection. P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P302+P352	If on skin: Wash with plenty of soap and water
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention.
P337+P313	If eye irritation persists: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed. P403 + P235 Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS – none

3. COMPOSITION AND INFORMATION ON COMPONENTS

Synonyms: Triethoxy(3,3,4,4,5,5,6,6,6-nonafluorohexyl)silane
3,3,4,4,5,5,6,6,6-Nonafluorohexyltriethyoxysilane
1H,1H,2H,2H-Perfluorohexyltriethoxysilane
Nonafluorohexyltriethoxysilane
Silane, triethoxy(3,3,4,4,5,5,6,6,6-nonafluorooctyl)-

Chemical Formula: $CF_3CF_2CF_2CF_2CH_2CH_2Si(OCH_2CH_3)_3$
$C_{12}H_{19}F_9O_3Si$

Molecular Weight 410.35 g/mole

CAS Number 102390-98-7

EC Number None

Hazardous components

Component	Classification	Concentration
2-(Perfluorobutyl)ethyl triethoxysilane	Flam. Liq. 4; Skin Irrit. 2; Eye Irrit. 2A; H227, H315, H319	≤100%

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

4. FIRST AID MEASURES

General advice Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

In case of skin contact Wash off with soap and plenty of water. Consult a physician.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention..

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

Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed No data available

5. FIRE FIGHTING MEASURES

Flash Point: > 65 °C - closed cup. Combustible liquid.

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special Hazards Arising from the Substance or Mixture	Carbon oxides, Hydrogen fluoride, silicon oxides
Advice for Firefighters	Wear self-contained breathing apparatus for firefighting if necessary.
Further Information	Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and Materials For Containment and Cleaning Up	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.
Reference to Other Sections	For disposal see section 13.

7. HANDLING AND STORAGE

Precautions for Safe Handling:	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge. For precautions see section 2.2.
Conditions for Safe Storage:	Store in cool, dry, well-ventilated area. Keep container tightly closed. Keep away from sources of ignition. Storage class (TRGS 510): Combustible liquids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Engineering Controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal Protective Equipment	
Eye/face protection	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection	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 good laboratory practices. Wash and dry hands.
Body Protection	impervious clothing. 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. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	
Form	Liquid
Color	Clear colorless
SAFETY DATA	
Boiling Point	96 °C at 15 mm Hg
Melting Point	< -40 °C
pH	4 - 5
Odor	Mild ethanol
Odor threshold	No data available
Flash Point	> 65 °C - closed cup
Evaporation rate	No data available
Vapor pressure	No data available
Vapor density	>1 (air = 1)
Ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Density	1.20 g/mL @ 25 °C
Oxidizing properties	No data available
Partition coefficient: n-octane/water	No data available
Solubility in Water	Negligible. Reacts with water.
Viscosity	No data available
Refractive Index	1.3502

10. STABILITY AND REACTIVITY

Reactivity	Reacts slowly with water to form a polymer. No other data available.
Chemical Stability:	Stable at normal temperatures and storage conditions.
Possibility of Hazardous Reactions:	No data available
Conditions to Avoid:	May form explosive mixtures in air. Direct sources of heat. Heat, flames and sparks.
Materials to Avoid:	Strong oxidizing agents. Water.
Hazardous Decomposition Products:	May evolve carbon dioxide, carbon monoxide, hydrogen fluoride and silicon oxides.
Hazardous Polymerization:	Will not occur.
Other Information:	No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity	
Oral LD50	No data available
Inhalation LC50	No data available
Dermal LD50	No data available
Other information on acute toxicity	No data available
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation
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 - single exposure (Globally Harmonized System)	Inhalation - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure (Globally Harmonized System)	No data available
Aspiration hazard	No data available

Potential health effects

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

Synergistic effects	No data available

Additional Information

RTECS	Not available

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	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB assessment	No data available
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

Product	This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Contact Fluoryx to return unused product.
Contaminated packaging	Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)	NA-Number: 1993 Class: NONE

	Packing group: III Proper shipping name: Combustible liquid, n.o.s. (1H, 1H, 2H, 2H-Perfluorobutyl Triethoxysilane) Reportable Quantity (RQ): > 119 gallons (450 liters). Poison Inhalation Hazard: No
IMDG	Not dangerous goods
IATA	Not dangerous goods

15. REGULATORY INFORMATION

TSCA Status	Not listed
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	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.
SARA 311/312 Hazards	Fire Hazard, Acute Health Hazard
Massachusetts Right To Know Components	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components	No components are subject to the Massachusetts Right to Know Act.
New Jersey Right To Know Components	No components are subject to the Massachusetts Right to Know Act.
California Prop. 65 Components	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Chronic	Chronic aquatic toxicity.
Eye Irrit.	Eye irritation.
H227	Combustible liquid.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

HMIS Classification

Health Hazard:	2
Flammability:	2
Physical Hazards:	1

NFPA Rating

Health Hazard:	2
Fire:	2
Reactivity Hazard:	1

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