

**(HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE**

Safety Data Sheet SIH5841.0

Date of issue: 11/21/2014

Revision date: 03/14/2019

Version: 2.3

## SECTION 1: Identification

### 1.1. Identification

Product name	: (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE
Product code	: SIH5841.0
Product form	: Substance
Physical state	: Liquid
Formula	: C <sub>10</sub> H <sub>4</sub> Cl <sub>3</sub> F <sub>17</sub> Si
Synonyms	: PERFLUORODECYL-1H,1H,2H,2H-TRICHLOROSILANE; (1H,1H,2H,2H-PERFLUORODECYL)TRICHLOROSILANE
Chemical family	: CHLOROSILANE

### 1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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### 1.3. Supplier

**GELEST, INC.**

11 East Steel Road  
Morrisville, PA 19067

**USA**

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

### 1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

Skin corrosion/irritation Category 1B	H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318 Causes serious eye damage

Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

**GHS US labeling**

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage

Precautionary statements (GHS US)

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P260 - Do not breathe vapors.  
P264 - Wash hands thoroughly after handling.  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a doctor  
P363 - Wash contaminated clothing before reuse.  
P405 - Store locked up.  
P501 - Dispose of contents/container to licensed waste disposal facility.  
P321 - Specific treatment (see first aid instructions on this label)

### 2.3. Hazards not otherwise classified (HNOC)

Other hazards not contributing to the classification

: Hydrogen chloride may be formed by reaction with water and moisture in air. The US OSHA PEL (TWA) for hydrogen chloride is 5 ppm.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

# (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE

## Safety Data Sheet

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent  
Name : (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE  
CAS-No. : 78560-44-8

Name	Product identifier	%	GHS-US classification
(Heptadecafluoro-1,1,2,2-tetrahydrodecyl)trichlorosilane	(CAS-No.) 78560-44-8	97 - 100	Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

First-aid measures after skin contact : Wash with plenty of soap and water. Get immediate medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

#### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes (severe) skin burns.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : May be harmful if swallowed.

#### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : Water.

#### 5.2. Specific hazards arising from the chemical

Fire hazard : Irritating fumes of hydrogen chloride and organic acid vapors may develop when material is exposed to water or open flame.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

# (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE

## Safety Data Sheet

### 6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors.
- Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container tightly closed.
- Incompatible materials : Acids. Alcohols. Oxidizing agent.
- Storage area : Store in a well-ventilated place. Store away from heat.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Provide local exhaust or general room ventilation.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### Hand protection:

Neoprene or nitrile rubber gloves

#### Eye protection:

Chemical goggles or face shield. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor/acid gas (yellow cartridge) respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Liquid.
- Molecular mass : 581.56 g/mol
- Color : Clear to hazy.
- Odor : Acrid. Similar to hydrogen chloride.
- Odor threshold : No data available
- Refractive index : 1.349
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : No data available
- Freezing point : 10 - 11 °C
- Boiling point : 216 - 218 °C

# (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE

## Safety Data Sheet

Flash point	: > 110 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 2 mm Hg @ 25°C
Relative vapor density at 20 °C	: > 1
Relative density	: 1.703
Solubility	: Reacts with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable in sealed containers stored under a dry inert atmosphere.

### 10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating hydrogen chloride.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Acids. Alcohols. Oxidizing agent.

### 10.6. Hazardous decomposition products

Hydrogen chloride. Hydrogen fluoride. Organic acid vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### (Heptadecafluoro-1,1,2,2-tetrahydrodecyl)trichlorosilane (78560-44-8)

LD50 oral rat	> 5000 mg/kg
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Causes (severe) skin burns.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

# (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE

## Safety Data Sheet

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

Effect on the ozone layer : No additional information available

Other information : Perfluorooctyl compounds have been shown to persist in the environment.

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

UN-No.(DOT) : 2987

DOT NA no. UN2987

#### 14.2. UN proper shipping name

Transport document description : UN2987 Chlorosilanes, corrosive, n.o.s. ((HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE), 8, II

Proper Shipping Name (DOT) : Chlorosilanes, corrosive, n.o.s.  
((HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE)

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 206

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Packaging Exceptions (49 CFR 173.xxx) : None

#### 14.3. Additional information

Emergency Response Guide (ERG) Number : 156

Other information : No supplementary information available.

#### Transport by sea

DOT Vessel Stowage Location : C - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

#### Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

# (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE

## Safety Data Sheet

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

(Heptadecafluoro-1,1,2,2-tetrahydrodecyl)trichlorosilane	CAS-No. 78560-44-8	97 - 100%
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#### (Heptadecafluoro-1,1,2,2-tetrahydrodecyl)trichlorosilane (78560-44-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag S - S - indicates a substance that is identified in a final Significant New Use Rule.

#### 15.2. International regulations

##### CANADA

#### (Heptadecafluoro-1,1,2,2-tetrahydrodecyl)trichlorosilane (78560-44-8)

Listed on the Canadian NDSL (Non-Domestic Substances List)

##### EU-Regulations

No additional information available

##### National regulations

#### (Heptadecafluoro-1,1,2,2-tetrahydrodecyl)trichlorosilane (78560-44-8)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on NZIoC (New Zealand Inventory of Chemicals)

#### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

### SECTION 16: Other information

Full text of H-phrases::

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

#### Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

Date of issue: 11/21/2014 Revision date: 03/14/2019 Version: 2.3

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

# (HEPTADEC AFLUORO-1,1,2,2- TETRAHYDRODECYL)TRICHLOROSILANE

## Safety Data Sheet

*The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.*

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11 E. Steel Road  
Morrisville, PA 19067

215-547-1015 phone  
215-547-2484 fax  
[www.gelest.com](http://www.gelest.com)

**NOTICE OF SIGNIFICANT NEW USE RULE**  
**SIH5841.0**  
**(HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE**

Dear Customer:

The chemical product purchased, SIH5841.0 is subject to a U.S. Environmental Protection Agency (EPA) Significant New Use Rule (SNUR) under the Toxic Substances Control Act (TSCA) regulations. Any manufacturer or processor who intends to use a chemical substance for commercial purposes with an identified new use must file a Significant New Use Notification (SNUN) with EPA.

Please reference the US Code of Federal Regulations at 40 CFR Part 721.10536, Long-Chain Perfluoroalkyl Carboxylate Chemical Substances), to review the specific designated new use(s) for (HEPTADEC AFLUORO-1,1,2,2-TETRAHYDRODECYL)TRICHLOROSILANE [CAS #78560-44-8] which would require EPA approval prior to that new use. If this product will be used for research and development purposes, please reference 40 CFR 721.47 to understand the specific conditions for the research and development exemption.

If you have questions or need more information related to a significant new use of a chemical substance, call the Toxic Substances Control Act (TSCA) Hotline at 202-554-1404 or email: [tsc-hotline@epa.gov](mailto:tsc-hotline@epa.gov).

Best Regards,

Gelest, Inc. Regulatory Affairs Department