

**HEXAFLUORODISILANE**

Safety Data Sheet SIH6074.8

Date of issue: 03/04/2017

Version: 1.0

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form	: Substance
Physical state	: Gas
Substance name	: HEXAFLUORODISILANE
Product code	: SIH6074.8
Formula	: F <sub>6</sub> Si <sub>2</sub>
Synonyms	: SILICON FLUORIDE PERFLUORODISILANE DISILICON HEXAFLUORIDE (TRIFLUOROSILYL)TRIFLUROSILANE
Chemical family	: SILICON COMPOUND

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Use of the substance/mixture	: Chemical intermediate
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**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet****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)**GELEST INC.**Fritz-Klatte-Strasse 8  
65933 Frankfurt**Germany**

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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelestde.com](http://www.gelestde.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: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Gases under pressure : Liquefied gas	H280
Acute toxicity (inhalation:gas) Category 3	H331
Skin corrosion/irritation, Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H statements : see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

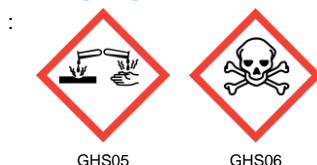
# HEXAFLUORODISILANE

## Safety Data Sheet

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

GHS06

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H280 - Contains gas under pressure; may explode if heated.

H314 - Causes severe skin burns and eye damage.

H331 - Toxic if inhaled.

H335 - May cause respiratory irritation.

Precautionary statements (CLP)

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P260 - Do not breathe gas.

P264 - Wash hands thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310 - Immediately call a POISON CENTER or doctor/physician

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type

: Mono-constituent

Name

: HEXAFLUORODISILANE

CAS-No.

: 13830-68-7

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hexafluorodisilane	(CAS-No.) 13830-68-7	95 - 100	Press. Gas (Liq.), H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335

Full text of 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 person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

First-aid measures after skin contact

: Flush with water, then wash with saturated solution of sodium carbonate or 3% aqueous ammonia. 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 if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects

: Causes severe skin burns and eye damage.

Symptoms/effects after inhalation

: Fatal if inhaled. May cause respiratory irritation. Overexposure may produce coughing, headache, nausea and lung congestion. Danger of serious damage to health by prolonged exposure through inhalation.

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.

# HEXAFLUORODISILANE

## Safety Data Sheet

Symptoms/effects upon intravenous administration	: For ingestion, calcium gluconate intravenously and calcium lactate orally may be considered.
Chronic symptoms	: Hydrofluoric acid, the hydrolysis product has demonstrated mutagenicity and teratogenicity in laboratory bioassay.

### 4.3. Indication of any immediate medical attention and special treatment needed

NOTE TO PHYSICIAN: This product reacts with water and human tissues to form hydrofluoric acid. Massage a paste of 20% magnesium oxide in glycerol onto the burned areas. Inject 2-5 cc of 10% calcium gluconate beneath and around the burned areas. Gastric lavage, if swallowed, using 5% calcium chloride followed by saline catharsis.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Water.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Contains gas under pressure; may explode if heated. Irritating fumes, hydrogen fluoride and organic acid vapors may develop when material is exposed to moist air.
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### 5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe gas.
Other information	: HEXAFLUORODISILANE is not combustible.

## 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".
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### 6.2. Environmental precautions

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

### 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.

### 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 contact with skin and eyes. Do not breathe gas. Use only outdoors or in a well-ventilated area.
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. Store locked up. Store in cylinders. Protect from sunlight. Store in a well-ventilated place.
Incompatible materials	: Moisture. Water.
Storage area	: Store in a well-ventilated place. Store away from heat.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Hexafluorodisilane (13830-68-7)		
USA OSHA	OSHA PEL (TWA) (ppm)	3 ppm HF

# HEXAFLUORODISILANE

## Safety Data Sheet

### 8.2. Exposure controls

#### Appropriate engineering controls:

Handle in an enclosing hood with exhaust ventilation.

#### 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	: Gas
Appearance	: Colorless gas. Fumes in moist air.
Molecular mass	: 170.17 g/mol
Colour	: No data available
Odour	: Pungent suffocating odor.
Odour threshold	: No data available
Refractive index	: No additional information available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -18.5 °C sub
Freezing point	: No data available
Boiling point	: -19 °C
Flash point	: not flammable
Auto-ignition temperature	: not combustible
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable
Vapour pressure	: ~ 4 atm @ 25°C
Relative vapour density at 20 °C	: > 3
Relative density	: 1.282
% Volatiles	: 100 %
Solubility	: Reacts vigorously 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
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

Gas group	: Press. Gas (Liq.)
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable in sealed plastic containers.

# HEXAFLUORODISILANE

## Safety Data Sheet

### 10.3. Possibility of hazardous reactions

Reacts with water and moisture in air liberating hydrogen fluoride.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Moisture. Water.

### 10.6. Hazardous decomposition products

Hydrogen fluoride.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Toxic if inhaled.

#### HEXAFLUORODISILANE (13830-68-7)

ATE CLP (gases)	2272 ppmv/4h
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#### Hexafluorodisilane (13830-68-7)

LC50 inhalation rat (ppm)	2272 ppm/4h 3 days: (compare to tetrafluorosilane)
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ATE CLP (gases)	2272 ppmv/4h
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Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : On contact with water and human tissue this compound liberates hydrogen fluoride (hydrofluoric acid).

Symptoms/effects after inhalation : Fatal if inhaled. May cause respiratory irritation. Overexposure may produce coughing, headache, nausea and lung congestion. Danger of serious damage to health by prolonged exposure through inhalation.

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.

Symptoms/effects upon intravenous administration : For ingestion, calcium gluconate intravenously and calcium lactate orally may be considered.

Chronic symptoms : Hydrofluoric acid, the hydrolysis product has demonstrated mutagenicity and teratogenicity in laboratory bioassay.

Reason for classification : Expert judgment

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

### 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. Results of PBT and vPvB assessment

No additional information available

# HEXAFLUORODISILANE

## Safety Data Sheet

### 12.6. Other adverse effects

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

## SECTION 13: Disposal considerations

### 13.1. Waste treatment 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

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : 3308  
UN-No. (IMDG) : 3308  
UN-No. (IATA) : 3308  
UN-No. (ADN) : 3308  
UN-No. (RID) : 3308

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.  
Proper Shipping Name (IMDG) : LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.  
Proper Shipping Name (IATA) : Liquefied gas, toxic, corrosive, n.o.s.  
Proper Shipping Name (ADN) : LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.  
Proper Shipping Name (RID) : LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.  
Transport document description (ADR) : UN 3308 LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. (HEXAFLUORODISILANE), 2.3 (8), (C/D)  
Transport document description (IMDG) : UN 3308 LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. (HEXAFLUORODISILANE), 2.3 (8)  
Transport document description (IATA) : UN 3308 Liquefied gas, toxic, corrosive, n.o.s. (HEXAFLUORODISILANE), 2.3  
Transport document description (ADN) : UN 3308 LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. (HEXAFLUORODISILANE), 2.3 (8)  
Transport document description (RID) : UN 3308 LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. (HEXAFLUORODISILANE), 2.3 (8)

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 2.3 (8)  
Danger labels (ADR) : 2.3, 8



#### IMDG

Transport hazard class(es) (IMDG) : 2.3 (8)  
Danger labels (IMDG) : 2.3, 8



#### IATA

Transport hazard class(es) (IATA) : 2.3 (8)

#### ADN

Transport hazard class(es) (ADN) : 2.3 (8)  
Danger labels (ADN) : 2.3, 8



# HEXAFLUORODISILANE

## Safety Data Sheet



### RID

Transport hazard class(es) (RID) : 2.3 (8)  
Danger labels (RID) : 2.3, 8



### 14.4. Packing group

Packing group (ADR) : Not applicable  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : Not applicable  
Packing group (ADN) : Not applicable  
Packing group (RID) : Not applicable

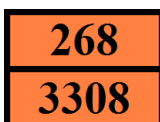
### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : 2TC  
Special provisions (ADR) : 274  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P200  
Mixed packing provisions (ADR) : MP9  
Portable tank and bulk container instructions (ADR) : (M)  
Tank code (ADR) : PxBH(M)  
Tank special provisions (ADR) : TU6, TA4, TT9  
Vehicle for tank carriage : AT  
Transport category (ADR) : 1  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV10, CV36  
Special provisions for carriage - Operation (ADR) : S14  
Hazard identification number (Kemler No.) : 268  
Orange plates :



Tunnel restriction code (ADR) : C/D  
EAC code : 2XE  
APP code : A(c)

#### - Transport by sea

Special provisions (IMDG) : 274  
Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P200  
EmS-No. (Fire) : F-C

# HEXAFLUORODISILANE

## Safety Data Sheet

EmS-No. (Spillage)	: S-U
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW2

### - Air transport

PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
Special provisions (IATA)	: A2
ERG code (IATA)	: 2CP

### - Inland waterway transport

Classification code (ADN)	: 2TC
Special provisions (ADN)	: 274
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EP, TOX, A
Ventilation (ADN)	: VE02
Number of blue cones/lights (ADN)	: 2

### - Rail transport

Classification code (RID)	: 2TC
Special provisions (RID)	: 274
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P200
Mixed packing provisions (RID)	: MP9
Portable tank and bulk container instructions (RID)	: (M)
Tank codes for RID tanks (RID)	: PxBH(M)
Special provisions for RID tanks (RID)	: TU6, TU38, TE22, TE25, TA4, TT9, TM6
Transport category (RID)	: 1
Special provisions for carriage - Loading, unloading and handling (RID)	: CW9, CW10, CW36
Hazard identification number (RID)	: 268

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

HEXAFLUORODISILANE is not on the REACH Candidate List

HEXAFLUORODISILANE is not on the REACH Annex XIV List

HEXAFLUORODISILANE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

HEXAFLUORODISILANE is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : 100 %

#### 15.1.2. National regulations

##### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)



# HEXAFLUORODISILANE

## Safety Data Sheet

### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed  
SZW-lijst van mutagene stoffen : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

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

Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H280	Contains gas under pressure; may explode if heated.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II) - Custom

*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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