



A Group Company of MITSUBISHI CHEMICAL

**1-(TRIETHOXYSILYL)-2-(DIETHOXYMETHYLSILYL)ETHANE****Safety Data Sheet SIT8185.8**

Issue date: 01/09/2015

Revision date: 07/19/2022

Version: 2.2

**SECTION 1: Identification****1.1. Identification**

Product name	: 1-(TRIETHOXYSILYL)-2-(DIETHOXYMETHYLSILYL)ETHANE
Product code	: SIT8185.8
Product form	: Substance
Physical state	: Liquid
Formula	: C <sub>13</sub> H <sub>32</sub> O <sub>5</sub> Si <sub>2</sub>
Synonyms	: 4,4,7-TRIETHOXY-7-METHYL-3,8-DIOXA-4,7-DISILADECANE
Chemical family	: ORGANOETHOXSILANE

**1.2. Recommended use and restrictions on use**

Recommended use	: Chemical intermediate
-----------------	-------------------------

**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)
------------------	---

**SECTION 2: Hazard(s) identification****2.1. Classification of the substance or mixture****GHS US classification**

Acute toxicity (oral) Category 4	H302 Harmful if swallowed
Serious eye damage/eye irritation Category 2B	H320 Causes eye irritation
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)

: Warning

Hazard statements (GHS US)

: H302 - Harmful if swallowed  
H320 - Causes eye irritation

Precautionary statements (GHS US)

: P264 - Wash hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P330 - Rinse mouth.  
P301+P312 - If swallowed: Call a doctor if you feel unwell.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P501 - Dispose of contents/container to licensed waste disposal facility..**2.3. Hazards not otherwise classified (HNOC)**

Other hazards which do not result in classification	: The hydrolysis product of this compound is ethanol. Consequently ingestion of the product is anticipated to have physiological effects similar to alcohol ingestion. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages. . The US OSHA PEL (TWA) for ethanol is 1000 ppm.
---	---

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

Not applicable

# 1-(TRIETHOXSILYL)-2-(DIETHOXYMETHYLSILYL)ETHANE

## Safety Data Sheet

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type	: Mono-constituent
Name	: 1-(TRIETHOXSILYL)-2-(DIETHOXYMETHYLSILYL)ETHANE
CAS-No.	: 18418-54-7

Name	Product identifier	%	GHS US classification
1-(Triethoxysilyl)-2-(diethoxymethylsilyl)ethane	(CAS-No.) 18418-54-7	95 – 100	Acute Tox. 4 (Oral), H302 Eye Irrit. 2B, H320

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. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of soap and water.
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 medical advice/attention.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if you feel unwell.

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

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

#### 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. Water fog. Alcohol-resistant foam. Carbon dioxide. Dry chemical.
------------------------------	---

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

Fire hazard	: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
-------------	---

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

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
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

Emergency procedures	: Evacuate unnecessary personnel.
----------------------	-----------------------------------

##### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
----------------------	--

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid 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. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

# 1-(TRIETHOXYSYLYL)-2-(DIETHOXYMETHYLSILYL)ETHANE

## Safety Data Sheet

### 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 : Use only in well ventilated areas. Avoid all eye and skin contact and do not breathe vapor and mist.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

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

Storage conditions : Keep container tightly closed.

Incompatible materials : Oxidizing agent. Moisture. Water.

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:

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

#### Hand protection:

Neoprene or nitrile rubber gloves

#### Eye protection:

Chemical goggles. 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 organic vapor (black cartridge) respirator.

## SECTION 9: Physical and chemical properties

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

Physical state : Liquid

Appearance : Clear liquid.

Molecular mass : 324.56 g/mol

Color : Colorless.

Odor : Slight.

Odor threshold : No data available

Refractive index : 1.4112

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : < 0 °C

Freezing point : No data available

Boiling point : 100 °C @ 0.5 mm Hg

Flash point : 102 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability : No data available

Vapor pressure : < 0.1 mm Hg @ 25 °C

Relative vapor density at 20 °C : < 1

Relative density : 0.946

# 1-(TRIETHOXSILYL)-2-(DIETHOXYMETHYLSILYL)ETHANE

## Safety Data Sheet

% Volatiles	: < 5 %
Solubility	: Reacts with water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (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.

### 10.3. Possibility of hazardous reactions

Material decomposes slowly in contact with moist air or with water liberating ethanol.

### 10.4. Conditions to avoid

Heat. Sparks. Open flame.

### 10.5. Incompatible materials

Oxidizing agent. Moisture. Water.

### 10.6. Hazardous decomposition products

Ethanol. Organic acid vapors. Silicon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### 1-(Triethoxysilyl)-2-(diethoxymethylsilyl)ethane (18418-54-7)

LD50 oral rat	> 500 mg/kg
---------------	-------------

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Harmful if swallowed.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

# 1-(TRIETHOXSILYL)-2-(DIETHOXYMETHYLSILYL)ETHANE

## Safety Data Sheet

### 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

Effect on the ozone layer : No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Incinerate. 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

Not regulated for transport.

### 14.2. UN proper shipping name

Not applicable

### 14.3. Additional information

Other information : No supplementary information available.

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 1-(TRIETHOXSILYL)-2-(DIETHOXYMETHYLSILYL)ETHANE (18418-54-7)

TSCA Exemption/Exclusion

Low Volume Exemption in accordance with 40 CFR 723.50(c)(1). Anyone who intends to use this chemical substance for commercial purposes must comply with specific use restrictions and controls specified herein. This LVE limits site of manufacture of this substance to Gelest, Inc. unless otherwise approved by U.S. EPA

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
1-(Triethoxysilyl)-2-(diethoxymethylsilyl)ethane	18418-54-7	Not present	-	

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

#### 1-(Triethoxysilyl)-2-(diethoxymethylsilyl)ethane (18418-54-7)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

### 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

# 1-(TRIETHOXYSYLYL)-2-(DIETHOXYMETHYLSILYL)ETHANE

## Safety Data Sheet

Full text of H-phrases::

H302	Harmful if swallowed
H320	Causes eye irritation

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 : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

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.

Issue date: 01/09/2015

Revision date: 07/19/2022

Version: 2.2

SDS US (GHS HazCom 2012) - Custom

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

*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.*

© 2020 Gelest Inc. Morrisville, PA 19067