SECTION 1: Identification

1.1. Identification

Product name: n-OCTYLTRIMETHOXYSILANE
Product code: SIO6715.5
Product form: Substance
Physical state: Liquid
Formula: C11H26O3Si
Synonyms: TRIMETHOXYSILYLOCTANE
Chemical family: ORGANOMETHOXYSILANE

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 - 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
- Flammable liquids Category 4 H227 Combustible liquid
- Serious eye damage/eye irritation Category 2A H319 Causes serious 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):
- H227 - Combustible liquid
- H319 - Causes serious eye irritation

Precautionary statements (GHS US):
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P264 - Wash hands thoroughly after handling.
- 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.
- P210 - Keep away from heat, open flames, sparks. - No smoking.
- P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish.
- P403+P235 - Keep in a cool place.
- P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type: Mono-constituent
Name: n-OCTYLTRIMETHOXYSILANE
CAS-No.: 3069-40-7
Name | Product identifier | % | GHS-US classification
--- | --- | --- | ---
n-OCTYLTRIMETHOXYSILANE | (CAS-No.) 3069-40-7 | > 95 | Flam. Liq. 4, H227
Methanol | (CAS-No.) 67-56-1 | | Flam. Liq. 2, H225

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. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)
Symptoms/effects after inhalation: May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.

Symptoms/effects after skin contact: May cause skin irritation.

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

Symptoms/effects after ingestion: Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness.

Chronic symptoms: On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

4.3. Immediate medical attention and special treatment, if necessary
NOTE TO PHYSICIAN: This product reacts with water in the acid contents of the stomach to form methanol. The combination of visual disturbances, metabolic acidosis and formic acid in urine is evidence of methanol poisoning. The therapeutic intravenous administration of ethanol (10 mls/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with intravenous administration of sodium bicarbonate and methanol elimination may be increased by hemodialysis, as indicated. Treatment should be based on blood methanol levels and acid-base balance.

SECTION 5: Fire-fighting measures
5.1. Suitable (and unsuitable) extinguishing media

5.2. Specific hazards arising from the chemical
Fire hazard: Combustible liquid. 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 to cool exposed surfaces. 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
General measures: Remove ignition sources. Use special care to avoid static electric charges.

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
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.

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: Provide good ventilation in process area to prevent accumulation of vapors. Avoid all eye and skin contact and do not breathe vapor and mist. Use only non-sparking tools. Take precautionary measures against static discharge.

Hygiene measures: Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Ground/bond container and receiving equipment.
Storage conditions: Keep container tightly closed.
Storage area: Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>AC/SH TWA (ppm)</th>
<th>AC/SH STEL (ppm)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>OSHA PEL (TWA) (ppm)</th>
<th>IDLH US (ppm)</th>
<th>NIOSH REL (TWA) (mg/m³)</th>
<th>NIOSH REL (TWA) (ppm)</th>
<th>NIOSH REL (STEL) (mg/m³)</th>
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</table>

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. 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>234.41 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Straw.</td>
</tr>
</tbody>
</table>

Print date: 04/10/2019
EN (English US)
SDS ID: SIO6715.5
Odor: Mild.
Odor threshold: No data available
Refractive index: 1.417
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: No data available
Freezing point: < 0 °C
Boiling point: 191 - 192 °C
Flash point: 68 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Combustible liquid
Vapor pressure: < 0.1 mm Hg @ 75°C
Relative vapor density at 20 °C: > 1
Relative density: 0.907
Solubility: Insoluble in water. 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.

10.3. Possibility of hazardous reactions
Reacts with water and moisture in air, liberating methanol.

10.4. Conditions to avoid
Heat. Open flame. Sparks.

10.5. Incompatible materials
Moisture. Water.

10.6. Hazardous decomposition products
Methanol. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Methanol (67-56-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 inhalation rat (ppm)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
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


### Symptoms/effects after skin contact

- May cause skin irritation.

### Symptoms/effects after eye contact

- Causes serious eye irritation.

### Symptoms/effects after ingestion

- Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness.

### Chronic symptoms

- On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Methanol (67-56-1)**

| LC50 fish 1 | 28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| LC50 fish 2 | > 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |

#### 12.2. Persistence and degradability

- No additional information available

#### 12.3. Bioaccumulative potential

**Methanol (67-56-1)**

- BCF fish 1: < 10
- Log Pow: -0.77

#### 12.4. Mobility in soil

- No additional information available

#### 12.5. Other adverse effects

- This substance may be hazardous to the environment.
- No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
- Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

- DOT NA no.: NA1993

#### 14.2. UN proper shipping name

- NA1993 Combustible liquid, n.o.s. (n-OCTYLTRIMETHOXYSILANE), 3, III (n-OCTYLTRIMETHOXYSILANE)
- 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- III - Minor Danger

#### 14.3. Additional information

- This product is Combustible as defined by the US Department of Transportation (DOT). It is regulated for transport in the US in container > 119 gallons (450 liters). The product is not regulated for transport by the IATA, ADR/RID, ADNR or the IMDG regulations.
**n-OCTYLTRIMETHOXYSILANE**

**Safety Data Sheet**

**Transport by sea**

**DOT Vessel Stowage Location**

A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

**Air transport**

**DOT Quantity Limitations**

- **Passenger aircraft/rail (49 CFR 173.27):** 60 L
- **Cargo aircraft only (49 CFR 175.75):** 220 L

**SECTION 15: Regulatory information**

### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regulation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol (67-56-1)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td>Subject to reporting requirements of United States SARA Section 313</td>
</tr>
<tr>
<td>n-Octyltrimethoxysilane (3069-40-7)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
</tbody>
</table>

### 15.2. International regulations

#### CANADA

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regulation</th>
<th>Details</th>
</tr>
</thead>
</table>
| Methanol (67-56-1) | Listed on the Canadian DSL (Domestic Substances List) | WXHMS Classification:
- Class B Division 2 - Flammable Liquid
- Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
- Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
- Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| n-Octyltrimethoxysilane (3069-40-7) | Listed on the Canadian NDSL (Non-Domestic Substances List) | |

#### EU-Regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regulation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol (67-56-1)</td>
<td>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
<td></td>
</tr>
<tr>
<td>n-Octyltrimethoxysilane (3069-40-7)</td>
<td>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
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#### National regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regulation</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Methanol (67-56-1)</td>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
</tr>
<tr>
<td>Listed on the Japanese ENCS (Existing &amp; New Chemical Substances) inventory</td>
<td>Listed on the Korean ECL (Existing Chemicals List)</td>
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<tr>
<td>Listed on NZIoC (New Zealand Inventory of Chemicals)</td>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
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</tr>
<tr>
<td>Japanese Poisonous and Deleterious Substances Control Law</td>
<td>Listed on the Canadian IDL (Ingredient Disclosure List)</td>
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</tr>
<tr>
<td>Listed on INSQ (Mexican National Inventory of Chemical Substances)</td>
<td>Listed on CICR (Turkish Inventory and Control of Chemicals)</td>
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</tr>
<tr>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
<td>n-Octyltrimethoxysilane (3069-40-7)</td>
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</tr>
<tr>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
<td>Listed on the Japanese ISHL (Industrial Safety and Health Law)</td>
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<tr>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
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</table>

### 15.3. US State regulations

**WARNING:** This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
n-OCTYLTRIMETHOXYSILANE
Safety Data Sheet

Full text of H-phrases:

| H225 | Highly flammable liquid and vapor |
| H227 | Combustible liquid |
| H301 | Toxic if swallowed |
| H311 | Toxic in contact with skin |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |
| H336 | May cause drowsiness or dizziness |
| H370 | Causes damage to organs |

Abbreviations and acronyms:
- 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: 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 & III)
- 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: 01/08/2015
Revision date: 04/08/2019
Version: 1.1

SDS US (GHS HazCom 2012) - Custom

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

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