ISOOCTYLTRIMETHOXYSilANE

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Substance

Physical state: Liquid

Substance name: ISOOCTYLTRIMETHOXYSilANE

Product code: SII6458.0

Formula: C11H26O3Si

Synonyms: 2,4,4-TRIMETHYLPENTYLTRIMETHOXYSilANE

TRIMETHOXY(2,4,4-TRIMETHYLPENTYL)SILANE

Chemical family: ORGANOMETHOXYSilANE

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

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 - www.gelest.com

GELEST INC.

Fritz-Klatte-Strasse 8

65933 Frankfurt

Germany

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

info@gelestde.com - www.gelestde.com

1.4. Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 3  H226

Serious eye damage/eye irritation, Category  H319

2

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Signal word (CLP): Warning

Hazard statements (CLP): H226 - Flammable liquid and vapour.
Precautionary statements (CLP)  
H319 - Causes serious eye irritation.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P240 - Ground/bond container and receiving equipment.  
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.

SECTION 3: Composition/Information on ingredients

3.1. Substances  
Substance type: Mono-constituent  
Name: Isooctyltrimethoxysilane  
CAS-No.: 34396-03-7  
EC-No.: 251-995-5

Full text of H-statements: see section 16

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. If you feel unwell, seek medical advice.  
First-aid measures after skin contact: Wash with plenty of water/…. Get medical advice/attention.  
First-aid measures after eye contact: Consult an eye specialist. Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
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, both acute and delayed  
Symptoms/effects after inhalation: May cause irritation to the respiratory tract. Overexposure may cause: Cough. 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.

SECTION 5: Firefighting measures

5.1. Extinguishing media  
Unsuitable extinguishing media: None known.
**5.2. Special hazards arising from the substance or mixture**

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

**5.3. Advice for firefighters**

**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 vapour 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**

**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.

**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. 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

**Additional hazards when processed**
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Precautions for safe handling**
- Avoid all eye and skin contact and do not breathe vapour and mist. Provide local exhaust or general room ventilation. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only non-sparking tools.

**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

**Technical measures**
- Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.

**Storage conditions**
- Keep container tightly closed. Keep in a cool place.

**Incompatible materials**

**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

No additional information available.

### 8.2. Exposure controls

**Appropriate engineering controls:**

Provide local exhaust or general room 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. Contact lenses should not be worn

**Skin and body protection:**
Wear suitable protective clothing

**Respiratory protection:**
Where exposure through inhalation may occur from use, respirator 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>Colour</td>
<td>Straw.</td>
</tr>
<tr>
<td>Odour</td>
<td>Mild.</td>
</tr>
<tr>
<td>Odour threshold</td>
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</tr>
<tr>
<td>Refractive index</td>
<td>1.4176</td>
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<tr>
<td>pH</td>
<td>No data available</td>
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<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
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<tr>
<td>Melting point</td>
<td>No data available</td>
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<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
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<tr>
<td>Boiling point</td>
<td>90 °C @ 10 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>52 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>310 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
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</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 1 mm Hg @ 25°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.887</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water. Reacts with water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
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<tr>
<td>Viscosity, dynamic</td>
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<tr>
<td>Explosive properties</td>
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</tr>
<tr>
<td>Oxidising properties</td>
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</tr>
<tr>
<td>Explosive limits</td>
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</tr>
</tbody>
</table>

#### 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

Organic acid vapors. Methanol.
**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye irritation.

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 : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

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

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

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 : May be incinerated. 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) : 1993

UN-No. (IMDG) : 1993

UN-No. (IATA) : 1993

UN-No. (ADN) : 1993

UN-No. (RID) : 1993
<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
</table>
| 14.2. UN proper shipping name | Proper Shipping Name (ADR) : FLAMMABLE LIQUID, N.O.S.  
Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.  
Proper Shipping Name (IATA) : Flammable liquid, n.o.s.  
Proper Shipping Name (ADN) : FLAMMABLE LIQUID, N.O.S.  
Transport document description (ADR) : UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOCTYLTRIMETHOXYSILANE), 3, III, (D/E)  
Transport document description (IMDG) : UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOCTYLTRIMETHOXYSILANE), 3, III  
Transport document description (IATA) : UN 1993 FLAMMABLE LIQUID, n.o.s. (ISOCTYLTRIMETHOXYSILANE), 3, III  
Transport document description (ADN) : UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOCTYLTRIMETHOXYSILANE), 3, III  
Transport document description (RID) : UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOCTYLTRIMETHOXYSILANE), 3, III |
| 14.3. Transport hazard class(es) | ADR  
Transport hazard class(es) (ADR) : 3  
Danger labels (ADR) : 3  
IMDG  
Transport hazard class(es) (IMDG) : 3  
Danger labels (IMDG) : 3  
IATA  
Transport hazard class(es) (IATA) : 3  
Hazard labels (IATA) : 3  
ADN  
Transport hazard class(es) (ADN) : 3  
Danger labels (ADN) : 3  
RID  
Transport hazard class(es) (RID) : 3  
Danger labels (RID) : 3 |
14.4. Packing group

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<thead>
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<th>Packing group (ADR)</th>
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</tr>
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<tbody>
<tr>
<td>Packing group (IMDG)</td>
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<td>Packing group (ADN)</td>
<td>III</td>
</tr>
<tr>
<td>Packing group (RID)</td>
<td>III</td>
</tr>
</tbody>
</table>

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): F1
  - Special provisions (ADR): 274, 601, 640E
  - Limited quantities (ADR): 5l
  - Excepted quantities (ADR): E1
  - Packing instructions (ADR): P001, IBC03, LP01, R001
  - Mixed packing provisions (ADR): MP19
  - Portable tank and bulk container instructions (ADR): T4
  - Portable tank and bulk container special provisions (ADR): TP1, TP29
  - Tank code (ADR): LGBF
  - Vehicle for tank carriage: FL
  - Transport category (ADR): 3
  - Special provisions for carriage - Packages (ADR): V12
  - Special provisions for carriage - Operation (ADR): S2
  - Hazard identification number (Kemler No.): 30
  - Orange plates: 30/1993
  - Tunnel restriction code (ADR): D/E

- **Transport by sea**
  - Special provisions (IMDG): 223, 274, 955
  - Limited quantities (IMDG): 5 L
  - Excepted quantities (IMDG): E1
  - Packing instructions (IMDG): P001, LP01
  - IBC packing instructions (IMDG): IBC03
  - Tank instructions (IMDG): T4
  - Tank special provisions (IMDG): TP1, TP29
  - EmS-No. (Fire): F-E
  - EmS-No. (Spillage): S-E
  - Stowage category (IMDG): A

- **Air transport**
  - PCA Excepted quantities (IATA): E1
  - PCA Limited quantities (IATA): Y344
  - PCA limited quantity max net quantity (IATA): 10L
  - PCA packing instructions (IATA): 355
PCA max net quantity (IATA) : 60L
CAO packing instructions (IATA) : 366
CAO max net quantity (IATA) : 220L
Special provisions (IATA) : A3
ERG code (IATA) : 3L

- Inland waterway transport
  Classification code (ADN) : F1
  Special provisions (ADN) : 274, 601, 640E
  Limited quantities (ADN) : 5 L
  Excepted quantities (ADN) : E1
  Carriage permitted (ADN) : T
  Equipment required (ADN) : PP, EX, A
  Ventilation (ADN) : VE01
  Number of blue cones/lights (ADN) : 0

- Rail transport
  Classification code (RID) : F1
  Special provisions (RID) : 274, 601, 640E
  Limited quantities (RID) : 5L
  Excepted quantities (RID) : E1
  Packing instructions (RID) : P001, IBC03, LP01, R001
  Mixed packing provisions (RID) : MP19
  Portable tank and bulk container instructions (RID) : T4
  Portable tank and bulk container special provisions (RID) : TP1, TP29
  Tank codes for RID tanks (RID) : LGBF
  Transport category (RID) : 3
  Special provisions for carriage – Packages (RID) : W12
  Colis express (express parcels) (RID) : CE4
  Hazard identification number (RID) : 30

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
ISOCTYLTRIMETHOXYSILANE is not on the REACH Candidate List
ISOCTYLTRIMETHOXYSILANE is not on the REACH Annex XIV List

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)

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
Class for fire hazard : Class II-1
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:

| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| H226 | Flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |

SDS EU (REACH Annex II) - Custom

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