# TETRAMETHOXYSilane, 98%

## Safety Data Sheet

**Date of issue:** 03/02/2015  
**Revision date:** 03/09/2019  
**Version:** 2.1  
**Print date:** 03/09/2019  
**EN** (English)  
**SDS ID:** SIT7510.0

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

<table>
<thead>
<tr>
<th>1.1.</th>
<th>Product identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product form</strong></td>
<td>Substance</td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Substance name</strong></td>
<td>TETRAMETHOXYSilane, 98%</td>
</tr>
<tr>
<td><strong>Product code</strong></td>
<td>SIT7510.0</td>
</tr>
<tr>
<td><strong>Formula</strong></td>
<td>C4H12O4Si</td>
</tr>
</tbody>
</table>
| **Synonyms** | TMOS  
SIlICON TETRAMETHOXIDE  
TETRAMETHYLOrTHOSILICATE  
ORGANOMETHOXYSiLAnE |

<table>
<thead>
<tr>
<th>1.2.</th>
<th>Relevant identified uses of the substance or mixture and uses advised against</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.2.1. Relevant identified uses</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Use of the substance/mixture</strong></td>
<td>Chemical intermediate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3.</th>
<th>Details of the supplier of the safety data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GELEST, INC.</strong></td>
<td></td>
</tr>
</tbody>
</table>
| 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-Klatten-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 |

<table>
<thead>
<tr>
<th>1.4.</th>
<th>Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency number</strong></td>
<td>CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)</td>
</tr>
</tbody>
</table>

### SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>2.1.</th>
<th>Classification of the substance or mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification according to Regulation (EC) No. 1272/2008 [CLP]</strong></td>
<td></td>
</tr>
<tr>
<td>Flammable liquids, Category 2</td>
<td>H225</td>
</tr>
<tr>
<td>Acute toxicity (oral), Category 3</td>
<td>H301</td>
</tr>
<tr>
<td>Acute toxicity (dermal), Category 3</td>
<td>H311</td>
</tr>
<tr>
<td>Acute toxicity (inhalation: vapour) Category 1</td>
<td>H330</td>
</tr>
<tr>
<td>Skin corrosion/irritation, Category 2</td>
<td>H315</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation, Category 1</td>
<td>H318</td>
</tr>
<tr>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
<td>H335</td>
</tr>
<tr>
<td>Full text of H statements: see section 16</td>
<td></td>
</tr>
</tbody>
</table>

**Adverse physicochemical, human health and environmental effects**  
No additional information available
TETRAMETHOXYSILANE, 98%
Safety Data Sheet

2.2. Label elements

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

GHS02
GHS05
GHS06

Signal word (CLP) : Danger
Hazard statements (CLP) :
H225 - Highly flammable liquid and vapour.
H301+H311 - Toxic if swallowed or in contact with skin
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H330 - Fatal if inhaled.
H335 - May cause respiratory irritation.

Precautionary statements (CLP) :
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - Wear respiratory protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 - Ground/bond container and receiving equipment.
P260 - Do not breathe vapours.
P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

Other hazards not contributing to the classification: Additional methanol may be formed by reaction with moisture and water.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : TETRAMETHOXYSILANE, 98%
CAS-No. : 681-84-5
EC-No. : 211-656-4

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetramethoxysilane</td>
<td>(CAS-No.) 681-84-5 (EC-No.) 211-656-4</td>
<td>98 - 100</td>
<td>Flam. Liq. 2, H225 Acute Tox. 1 (Inhalation: vapour), H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335</td>
</tr>
</tbody>
</table>

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 : Wash with plenty of water/.... Get 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. Immediately call a POISON CENTER/doctor.

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


Symptoms/effects after skin contact : Causes skin irritation.
TETRAMETHOXYSILANE, 98%
Safety Data Sheet

Precautions for safe handling

Additional hazards when processed: Causes serious eye damage. Even mild exposures can cause conjunctivitis and corneal scarring. Initial symptoms of exposure may include a "scratchy" feeling in the eyes. Silicon tetramethoxide causes severe eye injuries, as well as necrosis of corneal cells, which can progress long after exposure has ceased. These destructive effects resist treatment and permanent blindness is possible from exposure.

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 affect the central nervous system resulting in persistent or recurring headaches or impaired vision.

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 ml/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 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Eliminate any possible source of ignition. 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: Provide ventilation system and use necessary personal protective equipment as described in "8. EXPOSURE CONTROLS AND PERSONAL PROTECTION". Take up liquid spill into inert absorbent material, e.g.: sand/earth.

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: Avoid all eye and skin contact and do not breathe vapour and mist.

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Handle in an enclosing hood with exhaust ventilation. Open carefully. Ground/bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Avoid all eye and skin contact and do not breathe vapour and mist.
Hygiene measures: Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.

Storage conditions: Keep container tightly closed. Keep in a cool place. Store locked up.


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

TETRAMETHOXYSILANE, 98% (681-84-5)

<table>
<thead>
<tr>
<th>Country</th>
<th>Control parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>TWA (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Australia</td>
<td>TWA (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK Short time value (mg/m³)</td>
<td>12 mg/m³</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK Short time value (ppm)</td>
<td>2 ppm</td>
</tr>
<tr>
<td>Belgium</td>
<td>Limit value (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Belgium</td>
<td>Limit value (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>France</td>
<td>VME (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>France</td>
<td>VME (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Germany</td>
<td>TRGS 900 Occupational exposure limit value (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Germany</td>
<td>TRGS 900 Occupational exposure limit value (ppm)</td>
<td>0.3 ppm</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL STEL (mg/m³)</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL STEL (ppm)</td>
<td>5 ppm</td>
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<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>ACGIH TWA (ppm)</td>
<td>1 ppm</td>
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<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
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<td>NIOSH REL (TWA) (ppm)</td>
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<td>VLA-ED (mg/m³)</td>
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</tr>
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<td>VLA-ED (ppm)</td>
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</tr>
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<td>Switzerland</td>
<td>MAK (mg/m³)</td>
<td>6 mg/m³</td>
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<td>Switzerland</td>
<td>MAK (ppm)</td>
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<td>HTP-arvo (8h) (mg/m³)</td>
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<td>HTP-arvo (15 min) (ppm)</td>
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<td>Ireland</td>
<td>OEL (8 hours ref) (mg/m³)</td>
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<td>Ireland</td>
<td>OEL (8 hours ref) (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (mg/m³)</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (ppm)</td>
<td>5 ppm</td>
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<tr>
<td>Norway</td>
<td>Grenseverdier (AN) (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdier (AN) (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdier (Korttidsverdi) (mg/m³)</td>
<td>6 mg/m³</td>
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<tr>
<td>Norway</td>
<td>Grenseverdier (Korttidsverdi) (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Canada (Quebec)</td>
<td>VEMP (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Canada (Quebec)</td>
<td>VEMP (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Australia</td>
<td>TWA (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Australia</td>
<td>TWA (ppm)</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Portugal</td>
<td>OEL TWA (ppm)</td>
<td>1 ppm</td>
</tr>
</tbody>
</table>
8.2. Exposure controls

Appropriate engineering controls:
Handle in an enclosing hood with exhaust ventilation. Local exhaust is needed at source of vapours.

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 worker’s goggles must be worn. Safety glasses are not adequate eye protection. Contact lenses should not be worn

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. NIOSH-certified full-face supplied air respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: Liquid
- Appearance: Clear liquid.
- Molecular mass: 152.22 g/mol
- Colour: No data available
- Odour threshold: No data available
- Refractive index: 1.3688
- pH: No data available
- Relative evaporation rate (butylacetate=1): No data available
- Melting point: 4 - 5 °C
- Freezing point: No data available
- Boiling point: 121 - 122 °C
- Flash point: 20 °C
- Auto-ignition temperature: 245 °C
- Decomposition temperature: No data available
- Flammability (solid, gas): Highly flammable liquid and vapour.
- Vapour pressure: 12 mm Hg @ 25°C
- Relative vapour density at 20 °C: 5.25
- Relative density: 1.032
- % Volatiles: 100 %
- Solubility: Reacts with water.
- Log Pow: No data available
- Log Kow: No data available
- Viscosity, kinematic: 0.5 cSt
- Viscosity, dynamic: No data available
- Explosive properties: No data available
- Oxidising properties: No data available
- Explosive limits: 0.88 - 23.8 vol %

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.
TETRAMETHOXYSILANE, 98%
Safety Data Sheet

10.3. Possibility of hazardous reactions
Material decomposes slowly in contact with moist air or with water liberating methanol.

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

10.5. Incompatible materials

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Toxic if swallowed. Toxic in contact with skin. Fatal if inhaled.

<table>
<thead>
<tr>
<th>TETRAMETHOXYSILANE, 98% (681-84-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE CLP (oral) 100 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE CLP (dermal) 300 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE CLP (vapours) 0.409 mg/l/4h</td>
</tr>
</tbody>
</table>

Tetramethoxysilane (681-84-5)

| LD50 dermal rabbit 17 ml/kg |
| LC50 inhalation rat (mg/l) 0.393 mg/l/4h |
| LDLo oral rat 700 mg/kg |
| LCLo inhalation rat 250 ppm/4h |
| LCLo inhalation mouse 1000 mg/m³ /10M |
| ATE CLP (vapours) 0.393 mg/l/4h |
| ATE CLP (dust,mist) 0.393 mg/l/4h |

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye damage.

Severe eye injury and permanent blindness have been reported for humans.

Eye Irritation - rabbit: 250 mg: Severe Irritant

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.

Under experimental conditions, the kidney was found to be the target organ.

Overexposure can cause lung damage - pulmonary toxin.

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified


Symptoms/effects after skin contact: Causes skin irritation.

Symptoms/effects after eye contact: Causes serious eye damage. Even mild exposures can cause conjunctivitis and corneal scarring. Initial symptoms of exposure may include a "scratchy" feeling in the eyes. Silicon tetramethoxide causes severe eye injuries, as well as necrosis of corneal cells, which can progress long after exposure has ceased. These destructive effects resist treatment and permanent blindness is possible from exposure.

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.

Reason for classification: RTECS Number: VV9800000

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: May be hazardous to aquatic life if released to open waters.

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.
Additional information: Handle empty containers with care because residual vapours are flammable.
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): 2606
UN-No. (IMDG): 2606
UN-No. (IATA): 2606
UN-No. (ADN): 2606
UN-No. (RID): 2606

14.2. UN proper shipping name
Proper Shipping Name (ADR): METHYL ORTHOSILICATE
Proper Shipping Name (IMDG): METHYL ORTHOSILICATE
Proper Shipping Name (IATA): Methyl orthosilicate
Proper Shipping Name (ADN): METHYL ORTHOSILICATE
Proper Shipping Name (RID): METHYL ORTHOSILICATE
Transport document description (ADR): UN 2606 METHYL ORTHOSILICATE, 6.1 (3), I, (C/D)
Transport document description (IMDG): UN 2606 METHYL ORTHOSILICATE, 6.1 (3), I (-18°C c.c.)
Transport document description (IATA): UN 2606 Methyl orthosilicate, 6.1
Transport document description (ADN): UN 2606 METHYL ORTHOSILICATE, 6.1 (3), I
Transport document description (RID): UN 2606 METHYL ORTHOSILICATE, 6.1 (3), I

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR): 6.1 (3)
Danger labels (ADR): 6.1, 3

IMDG
Transport hazard class(es) (IMDG): 6.1 (3)
Danger labels (IMDG): 6.1, 3
14.4. Packing group

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

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) : TF1
Special provisions (ADR) : 354
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P602
Mixed packing provisions (ADR) : MP8, MP17
Portable tank and bulk container instructions (ADR) : T20
Portable tank and bulk container special provisions (ADR) : TP2, TP37
Tank code (ADR) : L10CH
Tank special provisions (ADR) : TU14, TU15, TE19, TE21
Vehicle for tank carriage : FL
Transport category (ADR) : 1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV1, CV13, CV28
Special provisions for carriage - Operation (ADR) : S2, S9, S14
TETRAMETHOXYSILANE, 98%
Safety Data Sheet

Hazard identification number (Kemler No.) : 663
Orange plates : 663

Tunnel restriction code (ADR) : C/D
EAC code : 3WE
APP code : A(fl)

- Transport by sea
Special provisions (IMDG) : 354
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P602
Tank instructions (IMDG) : T20
Tank special provisions (IMDG) : TP2, TP13, TP37
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D
Stowage category (IMDG) : D
Stowage and handling (IMDG) : SW2
Flash point (IMDG) : -18°C to 19°C c.c.
Properties and observations (IMDG) : Colourless, flammable liquid with an ethereal odour. Immiscible with water. Flashpoint: -18°C to 19°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. May cause blindness.

- 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
ERG code (IATA) : 6F

- Inland waterway transport
Classification code (ADN) : TF1
Special provisions (ADN) : 354, 802
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EP, EX, TOX, A
Ventilation (ADN) : VE01, VE02
Number of blue cones/lights (ADN) : 2

- Rail transport
Classification code (RID) : TF1
Special provisions (RID) : 354
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P602
Mixed packing provisions (RID) : MP8, MP17
Portable tank and bulk container instructions (RID) : T20
Portable tank and bulk container special provisions (RID) : TP2, TP37
Tank codes for RID tanks (RID) : L10CH
Special provisions for RID tanks (RID) : TU14, TU15, TU38, TE21, TE22
Transport category (RID) : 1
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31
Hazard identification number (RID) : 663

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
- TETRAMETHOXYSILANE, 98% is not on the REACH Candidate List
- TETRAMETHOXYSILANE, 98% is not on the REACH Annex XIV List
- TETRAMETHOXYSILANE, 98% 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.

| % Volatiles | 100 % |

#### 15.1.2. National regulations

- **Germany**
- **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 I-1
  - Store unit: 1 liter
  - Classification remarks: F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed
  - Danish National Regulations: Young people below the age of 18 years are not allowed to use the product
  - Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

**Abbreviations and acronyms:**

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

**Other information:**

Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Acute Tox. 1 (Inhalation: vapour)</th>
<th>Acute toxicity (inhalation:vapour) Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 3 (Dermal)</td>
<td>Acute toxicity (dermal), Category 3</td>
</tr>
<tr>
<td>Acute Tox. 3 (Oral)</td>
<td>Acute toxicity (oral), Category 3</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids, Category 2</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed.</td>
</tr>
</tbody>
</table>
H311  Toxic in contact with skin.
H315  Causes skin irritation.
H318  Causes serious eye damage.
H330  Fatal if inhaled.
H335  May cause respiratory irritation.

SDS EU (REACH Annex II) - Custom

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