# SECTION 1: Identification

## 1.1. Identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>SIT8395.0</td>
</tr>
<tr>
<td>Product form</td>
<td>Mixture</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Formula</td>
<td>C15H28ClNO3Si</td>
</tr>
<tr>
<td>Synonyms</td>
<td>N,N,N-TRIMETHYL-2-(TRIMETHOXYSILYL)ETHYL-1-PHENYLTRIMETHYLAMMONIUM CHLORIDE</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOMETHOXYSILANE</td>
</tr>
</tbody>
</table>

## 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

<table>
<thead>
<tr>
<th>GHS-US classification</th>
<th>H225 Highly flammable liquid and vapor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral) Category 3</td>
<td>H301 Toxic if swallowed</td>
</tr>
<tr>
<td>Acute toxicity (dermal) Category 3</td>
<td>H311 Toxic in contact with skin</td>
</tr>
<tr>
<td>Acute toxicity (inhalation/vapor) Category 3</td>
<td>H331 Toxic if inhaled</td>
</tr>
<tr>
<td>Skin corrosion/iritation Category 2</td>
<td>H315 Causes skin irritation</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation Category 1</td>
<td>H318 Causes serious eye damage</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure) Category 1</td>
<td>H370 Causes damage to organs</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure) Category 3</td>
<td>H336 May cause drowsiness or dizziness</td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16

## 2.2. GHS Label elements, including precautionary statements

### GHS US labeling

**Signal word (GHS US):** Danger

**Hazard pictograms (GHS US):**

- Flammable symbol
- Poison symbol
- Eye irritation symbol
- Generic pictogram

**Signal word (GHS US):** Danger

**Hazard statements (GHS US):**

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

**Precautionary statements (GHS US):**

- P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground/Bond container and receiving equipment
- P241 - Use explosion-proof electrical equipment
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P260 - Do not breathe vapors.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves, protective clothing, eye protection, face protection.
**4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYlammonium Chloride, 60% in methanol**

Safety Data Sheet

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**P301+P310** - If swallowed: Immediately call a POISON CENTER

**P303+P361+P353** - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower

**P304+P340** - If inhaled: Remove person to fresh air and keep comfortable for breathing

**P305+P351+P338** - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**P312** - Call a doctor if you feel unwell

**P330** - Rinse mouth.

**P332+P313** - If skin irritation occurs: Get medical advice/attention.

**P362** - Take off contaminated clothing and wash before reuse.

**P403+P233** - Store in a well-ventilated place. Keep container tightly closed.

**P403+P235** - Keep in a cool place

**P405** - Store locked up.

**P501** - Dispose of contents/container to licensed waste disposal facility.

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**2.3. Hazards not otherwise classified (HNOC)**

No additional information available

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

Not applicable

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**SECTION 3: Composition/Information on ingredients**

**3.1. Substances**

Not applicable

**3.2. Mixtures**

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-(Trimethoxysilyl)benzyltrimethylammonium chloride</td>
<td>(CAS-No.) not found</td>
<td>&gt; 55</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td>Methanol</td>
<td>(CAS-No.) 67-56-1</td>
<td>&gt; 35</td>
<td>Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation/vapour), H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 1, H370 STOT SE 3, H336</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

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**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. Call a POISON CENTER or doctor/physician.

**First-aid measures after inhalation**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

**First-aid measures after skin contact**

Remove/take off immediately all contaminated clothing. Wash with plenty of soap and water. Immediately call a poison center or doctor/physician. Wash contaminated clothing before reuse.

**First-aid measures after eye contact**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

**First-aid measures after ingestion**

Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor/physician.

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

**Symptoms/effects**

Causes damage to organs.

**Symptoms/effects after inhalation**


**Symptoms/effects after skin contact**

Toxic in contact with skin. Causes skin irritation. Repeated exposure to this material can result in absorption through skin causing significant health hazard.

**Symptoms/effects after eye contact**

Causes serious eye damage.

**Symptoms/effects after ingestion**

Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness. Onset of symptoms may be delayed up to 48 hours.

**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-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLMAMMONIUM CHLORIDE, 60% in methanol
Safety Data Sheet

4.3. Immediate medical attention and special treatment, if necessary
NOTE TO PHYSICIAN: 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 : Highly flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
Explosion hazard : May form flammable/explosive vapor-air mixture.
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. Avoid breathing vapors.
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
Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Containers must be properly grounded before beginning transfer. Provide good ventilation in process area to prevent accumulation of vapors. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Do not breathe vapors.
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
Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof ventilating 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>Methanol (67-56-1)</th>
<th>ACGIH</th>
<th>ACGIH TWA (ppm)</th>
<th>OSHA</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>OSHA</th>
<th>OSHA PEL (TWA) (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
<td>200 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
<td></td>
<td>260 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200 ppm</td>
</tr>
</tbody>
</table>

Print date: 04/11/2019 EN (English US) SDS ID: SIT8395.0
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 combination organic vapor - amine gas (brown 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><strong>Physical state</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Clear liquid</td>
</tr>
<tr>
<td><strong>Molecular mass</strong></td>
<td>333.93 g/mol</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Straw</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Amine-like</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Refractive index</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Relative evaporation rate (butyl acetate=1)</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td><strong>Freezing point</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>68 °C (initial, methanol)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>11 °C</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Highly flammable liquid and vapor</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>50 mm Hg @ 25°C</td>
</tr>
<tr>
<td><strong>Relative vapor density at 20 °C</strong></td>
<td>5.9 (methanol)</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>0.966</td>
</tr>
<tr>
<td><strong>% Volatiles</strong></td>
<td>50 %</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Reacts with water. Dissolves.</td>
</tr>
<tr>
<td><strong>Log Pow</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Log Kow</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Viscosity, kinematic</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Viscosity, dynamic</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>No data available</td>
</tr>
</tbody>
</table>
4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol
Safety Data Sheet

Oxidizing properties: No data available

Explosion limits: 6 - 36.5 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 when stored in sealed containers.

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

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

10.5. Incompatible materials

10.6. Hazardous decomposition products
Organic acid vapors. Methanol.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol (Not found)

<table>
<thead>
<tr>
<th>Exposure Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (oral)</td>
<td>285.714 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>857.143 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>8.571 mg/l/4h</td>
</tr>
</tbody>
</table>

Methanol (67-56-1)

<table>
<thead>
<tr>
<th>Exposure Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>22500 ppm (Exposure time: 8 h)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>100 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>300 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>3 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: Causes damage to organs. May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified
Potential Adverse human health effects and symptoms: Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.


Symptoms/effects after skin contact: Toxic in contact with skin. Causes skin irritation. Repeated exposure to this material can result in absorption through skin causing significant health hazard.

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

Symptoms/effects after ingestion: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness. Onset of symptoms may be delayed up to 48 hours.

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-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol

Safety Data Sheet

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

Other adverse effects: This substance may be hazardous to the environment.
Effect on the ozone layer: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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.
Additional information: Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials: Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT) : 2924
DOT NA no. : UN2924

14.2. UN proper shipping name

Transport document description: UN2924 Flammable liquids, corrosive, n.o.s. (4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol), 3 (8), II
Proper Shipping Name (DOT): Flammable liquids, corrosive, n.o.s. (4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol)
Class (DOT): 3 - Class 3: Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT): II - Medium Danger
Hazard labels (DOT): 3 - Flammable liquid
8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx): 202
DOT Packaging Bulk (49 CFR 173.xxx): 243
DOT Packaging Exceptions (49 CFR 173.xxx): 150
DOT Symbols: G - Identifies PSN requiring a technical name

14.3. Additional information

Emergency Response Guide (ERG) Number: 132
Other information: No supplementary information available.
4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol

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Transport by sea

DOT Vessel Stowage Location:
- B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other:
- 40 - Stow “clear of living quarters”

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27):
- 1 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75):
- 5 L

SECTION 15: Regulatory information

15.1. US Federal regulations

4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol (Not found)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

Methanol (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting
- 1 %

4-(Trimethoxysilyethyl)benzyltrimethyammonium chloride (not found)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS 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

EU-Regulations

Methanol (67-56-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Methanol (67-56-1)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on NzIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Japanese Poisonous and Deleterious Substances Control Law

Listed on the Canadian IDL (Ingredient Disclosure List)

Listed on INSG (Mexican National Inventory of Chemical Substances)

Listed on CIIR (Turkish Inventory and Control of Chemicals)

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.
4-(TRIMETHOXYSILYLETHYL)BENZYLTRIMETHYLAMMONIUM CHLORIDE, 60% in methanol
Safety Data Sheet

SECTION 16: Other information

Full text of H-phrases:

H225: Highly flammable liquid and vapor
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: The 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: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F, as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

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: 01/09/2015
Revision date: 06/19/2018
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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