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

1.1. Product identifier

Product form : Substance
Physical state : Liquid
Substance name : METHYLTRIETHOXYSILANE
Product code : SIM6555.0
Formula : C7H18O3Si
Synonyms : TRIETHOXYMETHYLSILANE; METHYLTRIETHYLOXYSILANE
Chemical family : ORGANOETHOXYSILANE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Chemical intermediate
For research and industrial use only

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

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 (GHS-US)
Flam. Liq. 3 H226
Eye Irrit. 2B H320

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H226 - Flammable liquid and vapor
H320 - Causes eye irritation
Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection
P210 - Keep away from heat, open flames, sparks. - 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
P264 - Wash hands thoroughly after handling
P303+P351+P338 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower
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
P370+P378 - In case of fire: Use water spray or fog, 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. Other hazards

Other hazards not contributing to the : Additional ethanol may be formed by reaction with moisture and water. The hydrolysis product
classification of this compound is ethanol. Overexposure to ethanol by skin absorption, inhalation or ingestion may have a narcotic effect (headache, nausea, drowsiness). Ethanol is metabolized to acetaldehyde and acetic acid which in large quantities result in metabolic acidosis, CNS depression and death due to respiratory arrest. The US OSHA PEL (TWA) for ethanol is 1000 ppm. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages.

2.4. Unknown acute toxicity (GHS US)
No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyltriethoxysilane</td>
<td>(CAS No) 2031-67-6</td>
<td>97 - 100</td>
<td>Flam. Liq. 3, H226</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2B, H320</td>
</tr>
</tbody>
</table>

3.2. Mixture
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. IF exposed or concerned: Get medical advice/attention.

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. 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 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, both acute and delayed

Symptoms/injuries after inhalation: May cause irritation to the respiratory tract.

Symptoms/injuries after skin contact: May cause mild skin irritation.

Symptoms/injuries after eye contact: Causes eye irritation.

Symptoms/injuries after ingestion: May be harmful if swallowed.

Chronic symptoms: On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system.

4.3. Indication of any immediate medical attention and special treatment needed

NOTE TO PHYSICIAN: This product reacts with water in the acid contents of the stomach to form ethanol.

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: Do not use straight streams.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Flammable liquid and vapor. 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: 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

General measures: Eliminate 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. 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. Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only non-sparking tools.
Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 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. Use explosion-proof electrical equipment.
Storage conditions: Keep container tightly closed. Keep in a cool place.
Incompatible materials: Oxidizing agent.
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, 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: 178.3 g/mol
Color: No data available
Odor: Characteristic. Pleasant.
Odor threshold: No data available
Refractive index: 1.3832
pH: No data available
Relative evaporation rate (butyl acetate=1): < 1
Melting point: < 0 °C
METHYLTRIETHOXYSILANE
Safety Data Sheet

Freezing point: No data available
Boiling point: 142 °C
Flash point: 30 °C
Auto-ignition temperature: 225 °C
Decomposition temperature: No data available
Flammability (solid, gas): Flammable liquid and vapor
Vapor pressure: 6 mm Hg @ 25°C
Relative vapor density at 20 °C: > 1
Relative density: 0.8948
VOC content: 100%
Solubility: Insoluble in water. Reacts slowly with water.
Log Pow: No data available
Log Kow: No data available
Viscosity, kinematic: 0.6 cSt
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.

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. Open flame. Sparks.

10.5. Incompatible materials
Oxidizing agent.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified

Methyltriethoxysilane (2031-67-6)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>12500 mg/kg ; 8570 uL/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>4000 ppm (8 hours)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>12500.000 mg/kg body weight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
- Skin Irritation - rabbit: 500 mg/24H: mild

Serious eye damage/irritation: Causes eye irritation.
- Eye Irritation - rabbit: 100 uL: mild irritant effect

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
Potential Adverse human health effects and symptoms:

- This material slowly generates ethanol on contact with water and moisture in living tissues. Material generates ethanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating effect on overexposed tissue.

Symptoms/injuries after inhalation:
- May cause irritation to the respiratory tract.

Symptoms/injuries after skin contact:
- May cause mild skin irritation.

Symptoms/injuries after eye contact:
- Causes eye irritation.

Symptoms/injuries after ingestion:
- May be harmful if swallowed.

Chronic symptoms:
- On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system.

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

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 ozone layer:
- No additional information available

Effect on the global warming:
- No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations:
- Do not dispose of waste into sewer.

Waste disposal recommendations:
- Incinerate. 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.

SECTION 14: Transport information

14.1. UN number

UN-No./DOT:
- 1993

DOT NA no.:
- UN1993

14.2. UN proper shipping name

Proper Shipping Name (DOT): FLAMMABLE LIQUIDS, N.O.S. (METHYLTRIETHOXYSILANE)

Department of Transportation (DOT) Hazard Classes:
- 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT):
- 3 - Flammable liquid

DOT Symbols:
- G - Identifies PSN requiring a technical name

Packing group (DOT):
- III - Minor Danger

DOT Packaging Exceptions (49 CFR 173.xxx):
- 150

DOT Packaging Non Bulk (49 CFR 173.xxx):
- 203

DOT Packaging Bulk (49 CFR 173.xxx):
- 242

14.3. Additional information

Emergency Response Guide (ERG) Number:
- 27

Other information:
- No supplementary information available.

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.
METHYLTRIETHOXYSILANE
Safety Data Sheet

Air transport
DOT Quantity Limitations Passenger aircraft/rail : 60 L
(49 CFR 173.27)
DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

Methyltriethoxysilane (2031-67-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Methyltriethoxysilane (2031-67-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
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)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

METHYLTRIETHOXYSILANE(2031-67-6)

<table>
<thead>
<tr>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significance risk level (NSRL)</th>
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</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No significance risk level</td>
</tr>
</tbody>
</table>

Methyltriethoxysilane (2031-67-6)

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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

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. |
|---------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Full text of H-phrases: |                                             |                                             |                                             |
| Eye Irrit. 2B | Serious eye damage/eye irritation Category 2B                      |                                             |                                             |
| Flam. Liq. 3  | Flammable liquids Category 3                                      |                                             |                                             |
| H226          | Flammable liquid and vapor                                       |                                             |                                             |
| H320          | Causes eye irritation                                            |                                             |                                             |

HMIS III Rating

<table>
<thead>
<tr>
<th>Health</th>
<th>1 Slight Hazard - Irritation or minor reversible injury possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>3 Serious Hazard</td>
</tr>
<tr>
<td>Physical</td>
<td>1 Slight Hazard</td>
</tr>
</tbody>
</table>