

## METHYLTRIETHOXYSILANE

### Safety Data Sheet SIM6555.0

Date of issue: 01/07/2015

Revision date: 09/22/2015

Version: 1.1

## 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<br>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](mailto:info@gelest.com) - [www.gelest.com](http://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 labeling

Hazard pictograms (GHS-US) :



GHS02

Signal word (GHS-US)

Hazard statements (GHS-US)

Precautionary statements (GHS-US)

- : Warning
- : H226 - Flammable liquid and vapor  
H320 - Causes eye irritation
- : 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+P361+P353 - 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

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### 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

Substance type : Mono-constituent  
Name : METHYLTRIETHOXYSILANE  
CAS No : 2031-67-6  
EC no : 217-983-9

| Name               | Product identifier | %        | Classification (GHS-US)                   |
|--------------------|--------------------|----------|---|
| Methyltrioxysilane | (CAS No) 2031-67-6 | 97 - 100 | Flam. Liq. 3, H226<br>Eye Irrit. 2B, H320 |

### 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

Suitable extinguishing media : Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.  
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.

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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

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|                                 |   |
|---------------------------------|---|
| 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

Ethanol. Organic acid vapors. Silicon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

| Methyltriethoxysilane (2031-67-6) |                             |
|-----------------------------------|-----------------------------|
| LD50 oral rat                     | 12500 mg/kg ; 8570 uL/kg    |
| LC50 inhalation rat               | 4000 ppm (8 hours)          |
| ATE US (oral)                     | 12500.000 mg/kg body weight |

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

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|   |   |
|---|---|
| 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.<br>(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. |
|-----------------------------|---|

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### 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)

|   |    |
|---|----|
| U.S. - California - Proposition 65 - Carcinogens List               | No |
| U.S. - California - Proposition 65 - Developmental Toxicity         | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male   | No |

#### Methyltriethoxysilane (2031-67-6)

| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
|---|---|---|---|-----------------------------------|
| No  | No  | No  | No  |                                   |

## 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

|              |  |
|--------------|--|
| Health       | : 1 Slight Hazard - Irritation or minor reversible injury possible |
| Flammability | : 3 Serious Hazard   |
| Physical     | : 1 Slight Hazard  |

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## Safety Data Sheet

Prepared by safety and environmental affairs.

Date of issue: 01/07/2015

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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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