

TETRAMETHYLSILANE, 99+%

Safety Data Sheet SIT7555.0

Date of issue: 10/23/2014

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

| | |
|-----------------|-----------------------------|
| Product form | : Substance |
| Physical state | : Liquid |
| Substance name | : TETRAMETHYLSILANE, 99+% |
| Product code | : SIT7555.0 |
| Formula | : C4H12Si |
| Synonyms | : TMS; SILANE, TETRAMETHYL- |
| Chemical family | : ORGANOSILANE |

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. 1 H224

Aquatic Acute 2 H401

Full text of H-phrases: see section 16

2.2. Label elements**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS02

Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

: H224 - Extremely flammable liquid and vapor

: H401 - Toxic to aquatic life

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

: P273 - Avoid release to the environment

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

: P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish

: P403+P235 - Store in a well-ventilated place. Keep cool

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

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

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SECTION 3: Composition/information on ingredients

3.1. Substance

| | |
|----------------|---------------------------|
| Substance type | : Mono-constituent |
| Name | : TETRAMETHYLSILANE, 99+% |
| CAS No | : 75-76-3 |
| EC no | : 200-899-1 |

| Name | Product identifier | % | Classification (GHS-US) |
|-------------------|--------------------|------|---|
| Tetramethylsilane | (CAS No) 75-76-3 | > 99 | Flam. Liq. 1, H224 Aquatic Acute 2, H401 |

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. |
| First-aid measures after inhalation | : Remove 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. |
| 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 be harmful if inhaled. May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : May cause eye irritation. |
| Symptoms/injuries after ingestion | : May be harmful if swallowed. |

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Water spray. Foam. Carbon dioxide. Dry chemical. |
| Unsuitable extinguishing media | : None known. |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|---|
| Fire hazard | : Extremely flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to water or open flame. |
| Explosion hazard | : May form flammable/explosive vapor-air mixture. |

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| 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 | : Eliminate 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. |
|----------------------|--|

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. |
|-------------------------|--|

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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. 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 | : Ground/bond container and receiving equipment. |
| Storage conditions | : Keep container tightly closed. |
| 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 | : NIOSH-certified combination organic vapor/acid gas (yellow 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 | : 88.22 g/mol |
| Color | : Straw. |
| Odor | : Slight. Mild. |
| Odor threshold | : No data available |
| Refractive index | : 1.3588 |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : > 1 |
| Melting point | : -99 °C |
| Freezing point | : No data available |
| Boiling point | : 26.6 - 26.7 °C |
| Flash point | : -27 °C |
| Critical temperature | : 185 °C |
| Auto-ignition temperature | : 450 °C |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Extremely flammable liquid and vapor |
| Vapor pressure | : 589 mm Hg @ 20°C |
| Critical pressure | : 33 atm |
| Relative vapor density at 20 °C | : 3 |
| Relative density | : 0.641 |
| VOC content | : 100 % |
| Solubility | : Insoluble in water. Water: 19.6 mg/l @ 25°C |

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| | |
|----------------------|---------------------|
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : 0.4 cSt |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosive 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 in sealed containers stored under a dry inert atmosphere.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Tetramethylsilane (75-76-3)

| | |
|--|---|
| LC50 inhalation rat | > 5000 ppm/4h |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| 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 |
| Symptoms/injuries after inhalation | : May be harmful if inhaled. May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : May cause eye irritation. |
| Symptoms/injuries after ingestion | : May be harmful if swallowed. |

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic life.

Tetramethylsilane (75-76-3)

| | |
|----------------|---|
| LC50 fish 1 | 1.9 mg/l Fish [Oncorhynchus mykiss] |
| EC50 Daphnia 1 | > 103 mg/l Invertebrate [Daphnia magna] |
| ErC50 (algae) | > 0.0079 mg/l Algae [Scenedesmus subspicatus] |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

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Log Kow : 3.24

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 ozone layer : No additional information available
Effect on the global warming : No known ecological damage caused by this product.
Other information : OECD TG 201. OECD TG 202. OECD TG 203.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste 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.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT) : 2749
DOT NA no. : UN2749

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Tetramethylsilane
Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid

Packing group (DOT) : I - Great Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : None
DOT Packaging Non Bulk (49 CFR 173.xxx) : 201
DOT Packaging Bulk (49 CFR 173.xxx) : 243



14.3. Additional information

Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : D - The material must be stowed "on deck only" 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, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

SECTION 15: Regulatory information

15.1. US Federal regulations

Tetramethylsilane (75-76-3)

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

15.2. International regulations

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Tetramethylsilane (75-76-3)

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

15.3. US State regulations

TETRAMETHYLSILANE, 99+%(75-76-3)

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

Tetramethylsilane (75-76-3)

| 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 | |

Tetramethylsilane (75-76-3)

U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities

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::

| | |
|-----------------|--|
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Flam. Liq. 1 | Flammable liquids Category 1 |
| H224 | Extremely flammable liquid and vapor |
| H401 | Toxic to aquatic life |

HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability : 4 Severe Hazard
Physical : 0 Minimal Hazard

Prepared by safety and environmental affairs.

Date of issue: 10/23/2014 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

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According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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