

**TRIMETHYLSILYLCYANIDE**

Safety Data Sheet SIT8585.0

Date of issue: 06/02/2015

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  | : TRIMETHYLSILYLCYANIDE                       |
| Product code    | : SIT8585.0                                   |
| Formula         | : C4H9NSi                                     |
| Synonyms        | : TRIMETHYLSILYLNITRILE; CYANOTRIMETHYLSILANE |
| Chemical family | : ORGANONITRILE                               |
| Chemical name   | : TRIMETHYLSILYLCYANIDE                       |

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

|                              |  |
|------------------------------|--|
| Use of the substance/mixture | : Chemical intermediate<br>For research 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. 2                     | H225 |
| Acute Tox. 2 (Oral)              | H300 |
| Acute Tox. 3 (Dermal)            | H311 |
| Acute Tox. 2 (Inhalation:vapour) | H330 |
| Skin Irrit. 2                    | H315 |
| Eye Irrit. 2A                    | H319 |
| STOT SE 3                        | H335 |

Full text of H-phrases: see section 16

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

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapor  
H300+H330 - Fatal if swallowed or if inhaled  
H311 - Toxic in contact with skin  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

Precautionary statements (GHS-US)

: P210 - Keep away from heat, open flames, sparks. - No smoking  
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, mist  
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  
P301+P310 - If swallowed: Immediately call a doctor

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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  
P337+P313 - If eye irritation persists: Get medical advice/attention  
P363 - Wash contaminated clothing before reuse  
P370+P378 - In case of fire: Use foam, carbon dioxide, dry chemical to extinguish  
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.

### 2.3. Other hazards

No additional information available

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

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Substance type : Mono-constituent  
Name : TRIMETHYLSILYLCYANIDE  
CAS No : 7677-24-9  
EC no : 231-657-3

| Name                            | Product identifier | %    | Classification (GHS-US)  |
|---------------------------------|--------------------|------|--|
| Silane carbonitrile, trimethyl- | (CAS No) 7677-24-9 | > 97 | Flam. Liq. 2, H225<br>Acute Tox. 2 (Oral), H300<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 2 (Inhalation), H330<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |

### 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 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. Overexposure may cause: Coughing. Headache. Nausea.  
Symptoms/injuries after skin contact : Causes skin irritation.  
Symptoms/injuries after eye contact : Causes serious eye irritation.  
Symptoms/injuries after ingestion : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

### 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 : Foam. Carbon dioxide. Dry chemical.  
Unsuitable extinguishing media : Water.

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### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor. Toxic fumes of hydrogen cyanide will develop when material is exposed to water.

### 5.3. Advice for firefighters

Firefighting instructions : 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. Fire fighters must wear positive pressure self-contained breathing apparatus.  
Other information : If no greater threat is present, this material should be allowed to burn, since combustion eliminates acute toxic potential.

## 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.

### 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 : Handle in an enclosing hood with exhaust ventilation. Provide good ventilation in process area to prevent accumulation of vapors. Avoid all eye and skin contact and do not breathe vapor and mist. Containers must be properly grounded before beginning transfer. 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

Storage conditions : Keep container tightly closed.  
Incompatible materials : Acids. Oxidizing agent. Alcohols. Water.  
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 : Wear respiratory protection. NIOSH-certified full-face supplied air respirator. 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

Physical state : Liquid

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|   |                                     |
|---|-------------------------------------|
| Appearance                                  | : Clear liquid.                     |
| Molecular mass                              | : 99.21 g/mol                       |
| Color                                       | : Clear to straw.                   |
| Odor  | : almond-like.                      |
| Odor threshold                              | : No data available                 |
| Refractive index                            | : 1.392                             |
| pH  | : No data available                 |
| Relative evaporation rate (butyl acetate=1) | : No data available                 |
| Melting point                               | : No data available                 |
| Freezing point                              | : < 11 - 12 °C                      |
| Boiling point                               | : 118 - 119 °C                      |
| Flash point                                 | : 1 °C                              |
| Auto-ignition temperature                   | : No data available                 |
| Decomposition temperature                   | : No data available                 |
| Flammability (solid, gas)                   | : Highly flammable liquid and vapor |
| Vapor pressure                              | : < 37.3 mm Hg @ 37 °C              |
| Relative vapor density at 20 °C             | : > 1                               |
| Relative density                            | : 0.744                             |
| VOC content                                 | : 100 %                             |
| Solubility                                  | : Reacts with water.                |
| Log Pow                                     | : No data available                 |
| Log Kow                                     | : No data available                 |
| Viscosity, kinematic                        | : No data available                 |
| 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 in sealed containers stored under a dry inert atmosphere.

### 10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating hydrogen cyanide.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Acids. Oxidizing agent. Alcohols. Water.

### 10.6. Hazardous decomposition products

Organic acid vapors. Hydrogen cyanide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Fatal if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Fatal if inhaled.

| TRIMETHYLSILYLCYANIDE (7677-24-9)          |                           |
|--|---------------------------|
| ATE US (oral)                              | 5.155 mg/kg body weight   |
| ATE US (dermal)                            | 309.278 mg/kg body weight |
| ATE US (vapors)                            | 0.515 mg/l/4h             |
| Silanecarbonitrile, trimethyl- (7677-24-9) |                           |
| ATE US (oral)                              | 5.000 mg/kg body weight   |
| ATE US (dermal)                            | 300.000 mg/kg body weight |
| ATE US (gases)                             | 100.000 ppmV/4h           |
| ATE US (vapors)                            | 0.500 mg/l/4h             |

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| Silanecarbonitrile, trimethyl- (7677-24-9)         |  |
|--|--|
| ATE US (dust, mist)                                | 0.050 mg/l/4h  |
| Skin corrosion/irritation                          | : Causes skin irritation.  |
| Serious eye damage/irritation                      | : Causes serious eye irritation.   |
| Respiratory or skin sensitization                  | : Not classified   |
| Germ cell mutagenicity                             | : Not classified   |
| Carcinogenicity                                    | : Not classified   |
| Reproductive toxicity                              | : Not classified   |
| Specific target organ toxicity (single exposure)   | : May cause respiratory irritation.  |
| Specific target organ toxicity (repeated exposure) | : Not classified   |
| Aspiration hazard                                  | : Not classified   |
| Symptoms/injuries after inhalation                 | : May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.     |
| Symptoms/injuries after skin contact               | : Causes skin irritation.  |
| Symptoms/injuries after eye contact                | : Causes serious eye irritation.   |
| Symptoms/injuries after ingestion                  | : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. |
| Reason for classification                          | : Expert judgment  |

### 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

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.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

UN-No.(DOT) : 3384

DOT NA no. UN3384

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Toxic by inhalation liquid, flammable, n.o.s.  
TRIMETHYLSILYLCYANIDE

Department of Transportation (DOT) Hazard Classes : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132

Hazard labels (DOT) : 6.1 - Poison inhalation hazard  
3 - Flammable liquid



DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : I - Great Danger

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DOT Packaging Exceptions (49 CFR 173.xxx) : None  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 227  
DOT Packaging Bulk (49 CFR 173.xxx) : 244

### 14.3. Additional information

Emergency Response Guide (ERG) Number : 131  
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.  
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

### Air transport

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

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### TRIMETHYLSILYLCYANIDE (7677-24-9)

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

#### Silanecarbonitrile, trimethyl- (7677-24-9)

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

### 15.2. International regulations

#### Silanecarbonitrile, trimethyl- (7677-24-9)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on the Canadian NDSL (Non-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 ISHL (Industrial Safety and Health Law)  
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

### 15.3. US State regulations

#### TRIMETHYLSILYLCYANIDE(7677-24-9)

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

#### Silanecarbonitrile, trimethyl- (7677-24-9)

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

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### 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::

|                                  |   |
|----------------------------------|---|
| Acute Tox. 2 (Inhalation)        | Acute toxicity (inhalation) Category 2                      |
| Acute Tox. 2 (Inhalation:vapour) | Acute toxicity (inhalation:vapor) Category 2                |
| Acute Tox. 2 (Oral)              | Acute toxicity (oral) Category 2                            |
| Acute Tox. 3 (Dermal)            | Acute toxicity (dermal) Category 3                          |
| Eye Irrit. 2A                    | Serious eye damage/eye irritation Category 2A               |
| Flam. Liq. 2                     | Flammable liquids Category 2                                |
| Skin Irrit. 2                    | Skin corrosion/irritation Category 2                        |
| STOT SE 3                        | Specific target organ toxicity (single exposure) Category 3 |
| H225                             | Highly flammable liquid and vapor                           |
| H300                             | Fatal if swallowed  |
| H311                             | Toxic in contact with skin                                  |
| H315                             | Causes skin irritation                                      |
| H319                             | Causes serious eye irritation                               |
| H330                             | Fatal if inhaled  |
| H335                             | May cause respiratory irritation                            |

#### HMIS III Rating

Health : 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures  
Flammability : 3 Serious Hazard  
Physical : 2 Moderate Hazard

Prepared by safety and environmental affairs.

Date of issue: 06/02/2015 Version: 1.0

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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