

**TRIMETHYLSILYLCYANIDE**

Safety Data Sheet SIT8585.0

Date of issue: 02/06/2015

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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	: TRIMETHYLSILYLCYANIDE
Product code	: SIT8585.0
Formula	: C <sub>4</sub> H <sub>9</sub> NSi
Synonyms	: TRIMETHYLSILYLNITRILE CYANOTRIMETHYLSILANE TRIMETHYLSILYLCARBONITRILE TRIMETHYLSILANECARBONITRILE
Chemical family	: ORGANONITRILE

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Use of the substance/mixture	: Chemical intermediate
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**1.2.2. Uses advised against**

No additional information available

**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)**GELEST INC.**Fritz-Klatte-Strasse 8  
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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelestde.com](http://www.gelestde.com)**1.4. Emergency telephone number**

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Flammable liquids, Category 2	H225
Acute toxicity (oral), Category 2	H300
Acute toxicity (dermal), Category 3	H311
Acute toxicity (inhalation:vapour) Category 1	H330
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H statements : see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.  
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 (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P240 - Ground/bond container and receiving equipment.  
P260 - Do not breathe vapours.  
P264 - Wash hands thoroughly after handling.  
P280 - Wear eye protection, protective clothing, protective gloves.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

EUH-statements

: EUH029 - Contact with water liberates toxic gas.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

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

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Trimethylsilylcyanide	(CAS-No.) 7677-24-9 (EC-No.) 231-657-3	> 97	Flam. Liq. 2, H225 Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of H-statements: see section 16

### 3.2. Mixtures

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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of 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/effects after inhalation : May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.

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Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects 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.

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

Fire hazard	: Highly flammable liquid and vapour. Toxic fumes of hydrogen cyanide will develop when material is exposed to water.
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### 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 vapour 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.
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#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
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### 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 vapours are flammable.
Precautions for safe handling	: Handle in an enclosing hood with exhaust ventilation. Provide good ventilation in process area to prevent formation of vapour. Avoid all eye and skin contact and do not breathe vapour 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

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### 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:

[In case of inadequate ventilation] 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
Appearance	: Clear liquid.
Molecular mass	: 99.21 g/mol
Colour	: Clear to straw.
Odour	: almond-like.
Odour threshold	: No data available
Refractive index	: 1.392
pH	: No data available
Relative evaporation rate (butylacetate=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 vapour.
Vapour pressure	: < 37.3 mm Hg @ 37°C
Relative vapour density at 20 °C	: > 1
Relative density	: 0.744
% Volatiles	: 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
Oxidising 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.

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### 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 : Fatal if swallowed. Toxic in contact with skin. Fatal if inhaled.

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

ATE CLP (oral)	5.155 mg/kg bodyweight
ATE CLP (dermal)	309.278 mg/kg bodyweight
ATE CLP (vapours)	0.05 mg/l/4h

#### Trimethylsilylcyanide (7677-24-9)

ATE CLP (oral)	5 mg/kg bodyweight
ATE CLP (dermal)	300 mg/kg bodyweight
ATE CLP (dust,mist)	0.05 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects 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

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

### 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. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Product/Packaging 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

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

- UN-No. (ADR) : 3384
- UN-No. (IMDG) : 3384
- UN-No. (IATA) : 3384
- UN-No. (ADN) : 3384
- UN-No. (RID) : 3384

#### 14.2. UN proper shipping name

- Proper Shipping Name (ADR) : TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.
- Proper Shipping Name (IMDG) : TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.
- Proper Shipping Name (IATA) : Toxic by inhalation liquid, flammable, n.o.s.
- Proper Shipping Name (ADN) : TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.
- Proper Shipping Name (RID) : TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.
- Transport document description (ADR) : UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (TRIMETHYLSILYLCYANIDE), 6.1 (3), I, (C/D)
- Transport document description (IMDG) : UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (TRIMETHYLSILYLCYANIDE), 6.1 (3), I
- Transport document description (IATA) : UN 3384 Toxic by inhalation liquid, flammable, n.o.s. (TRIMETHYLSILYLCYANIDE), 6.1
- Transport document description (ADN) : UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (TRIMETHYLSILYLCYANIDE), 6.1 (3), I
- Transport document description (RID) : UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (TRIMETHYLSILYLCYANIDE), 6.1 (3), I

#### 14.3. Transport hazard class(es)

##### ADR

- Transport hazard class(es) (ADR) : 6.1 (3)
- Danger labels (ADR) : 6.1, 3



##### IMDG

- Transport hazard class(es) (IMDG) : 6.1 (3)
- Danger labels (IMDG) : 6.1, 3



##### IATA

- Transport hazard class(es) (IATA) : 6.1 (3)

##### ADN

- Transport hazard class(es) (ADN) : 6.1 (3)
- Danger labels (ADN) : 6.1, 3



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### RID

Transport hazard class(es) (RID) : 6.1 (3)  
Danger labels (RID) : 6.1, 3



### 14.4. Packing group

Packing group (ADR) : I  
Packing group (IMDG) : I  
Packing group (IATA) : Not applicable  
Packing group (ADN) : I  
Packing group (RID) : I

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : TF1  
Special provisions (ADR) : 274  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P602  
Mixed packing provisions (ADR) : MP8, MP17  
Portable tank and bulk container instructions (ADR) : T20  
Portable tank and bulk container special provisions (ADR) : TP2  
Tank code (ADR) : L10CH  
Tank special provisions (ADR) : TU14, TU15, TE19, TE21  
Vehicle for tank carriage : FL  
Transport category (ADR) : 1  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV1, CV13, CV28  
Special provisions for carriage - Operation (ADR) : S2, S9, S14  
Hazard identification number (Kemler No.) : 663  
Orange plates :



Tunnel restriction code (ADR) : C/D

#### - Transport by sea

Special provisions (IMDG) : 274  
Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P602  
Tank instructions (IMDG) : T20

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Tank special provisions (IMDG)	: TP2, TP13
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: A variety of toxic liquids which present a highly toxic inhalation hazard as well as being flammable. Highly toxic if swallowed, by skin contact or by inhalation.

### - Air transport

PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
ERG code (IATA)	: 6F

### - Inland waterway transport

Classification code (ADN)	: TF1
Special provisions (ADN)	: 274, 802
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EP, EX, TOX, A
Ventilation (ADN)	: VE01, VE02
Number of blue cones/lights (ADN)	: 2

### - Rail transport

Classification code (RID)	: TF1
Special provisions (RID)	: 274
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P602
Mixed packing provisions (RID)	: MP8, MP17
Portable tank and bulk container instructions (RID)	: T20
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L10CH
Special provisions for RID tanks (RID)	: TU14, TU15, TU38, TE21, TE22
Transport category (RID)	: 1
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28, CW31
Hazard identification number (RID)	: 663

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

TRIMETHYLSILYLCYANIDE is not on the REACH Candidate List

TRIMETHYLSILYLCYANIDE is not on the REACH Annex XIV List

TRIMETHYLSILYLCYANIDE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

TRIMETHYLSILYLCYANIDE is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : 100 %

#### 15.1.2. National regulations



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### Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 1829)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### 15.2. Chemical safety assessment

No additional information available

## 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; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor

Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Acute Tox. 1 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 1
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
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, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
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.
EUH029	Contact with water liberates toxic gas.

SDS EU (REACH Annex II) - Custom

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