



Enabling Your Technology

TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet SIT8591.0

Date of issue: 10/05/2015

Version: 1.0

SECTION 1: Identification**1.1. Identification**

Product name : TRIMETHYLSILYLISOCYANATE, 85%
 Product code : SIT8591.0
 Product form : Substance
 Physical state : Liquid
 Formula : C4H9NOSi
 Synonyms : ISOCYANATOTRIMETHYLSILANE
 Chemical family : ORGANOSILANE

1.2. Recommended use and restrictions on use

Recommended use : Chemical intermediate

1.3. Supplier**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: Hazard(s) identification**2.1. Classification of the substance or mixture****GHS-US classification**

Flammable liquids Category 2	H225 Highly flammable liquid and vapor
Acute toxicity (inhalation:vapor) Category 3	H331 Toxic if inhaled
Skin corrosion/irritation Category 2	H315 Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319 Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 3	H335 May cause respiratory irritation
Hazardous to the aquatic environment - Acute Hazard Category 2	H401 Toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 2	H411 Toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements**GHS US labeling**

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H225 - Highly flammable liquid and vapor
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H331 - Toxic if inhaled
 H335 - May cause respiratory irritation
 H401 - Toxic to aquatic life
 H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) :

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P312 - Call a doctor if you feel unwell
 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.
 P261 - Avoid breathing vapors.
 P264 - Wash hands thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.
 P273 - Avoid release to the environment.
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse

TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet

skin with water/shower
P332+P313 - If skin irritation occurs: Get medical advice/attention.
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.
P321 - Specific treatment (see first aid instructions on this label)
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use carbon dioxide or dry chemical to extinguish.
P391 - Collect spillage.
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. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent
Name : TRIMETHYLSILYLISOCYANATE, 85%
CAS-No. : 1118-02-1

Name	Product identifier	%	GHS-US classification
Trimethylsilylisocyanate	(CAS-No.) 1118-02-1	70 - 85	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
Hexamethyldisiloxane	(CAS-No.) 107-46-0	15 - 30	Flam. Liq. 2, H225 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of hazard classes and 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 victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention.

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 (acute and delayed)

Symptoms/effects after inhalation : May cause respiratory irritation. Low exposure levels may cause headaches. At slightly higher levels palpitation, ataxia, weakness and cyanosis (blue-gray coloring of skin, lips and fingernails caused by lack of oxygen may be observed).

Symptoms/effects after skin contact : Causes skin irritation. Allergic sensitization may occur.

Symptoms/effects after eye contact : Causes serious eye irritation. Bloodshot eyes are a result of vapor contact by the eyes or inhalation.

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

4.3. Immediate medical attention and special treatment, if necessary

Note to physician: If cyanosis is evident consider treatment for cyanide poisoning.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : If no greater threat is present, this material should be allowed to burn, since combustion eliminates acute toxic potential. If a greater threat is present, use carbon dioxide or dry chemical.

Unsuitable extinguishing media : Water.

TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet

5.2. Specific hazards arising from the chemical

- Fire hazard : Highly flammable liquid and vapor. Toxic fumes will develop when material if material is heated to high temperatures (>300°C) without combustion. Combustion or incineration substantially reduces toxicity.
- Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Special protective equipment and precautions for fire-fighters

- 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. Avoid inhalation of vapor and spray mist. Wear self-contained air supply.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Eliminate every possible source of ignition. 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. Collect spillage.

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, open flames, sparks. - No smoking.
- Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. 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. Store locked up.
- Incompatible materials : Acids. Alcohols. Oxidizing agent. Moisture. Water.
- Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

- No additional information available

8.2. Appropriate engineering controls

- Appropriate engineering controls : Handle in an enclosing hood with exhaust ventilation. Provide local exhaust or general room ventilation.

TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet

8.3. Individual protection measures/Personal protective equipment

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 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	: 115.21 g/mol
Color	: Straw.
Odor	: Pungent.
Odor threshold	: No data available
Refractive index	: 1.396
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: 91 °C
Flash point	: -2 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: ~ 100 mm Hg @ 25°C
Relative vapor density at 20 °C	: > 1
Relative density	: 0.867
% 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
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.

TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. Alcohols. Oxidizing agent. Moisture. Water.

10.6. Hazardous decomposition products

At elevated temperatures fumes of cyanic acid and hydrogen cyanide may develop.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

TRIMETHYLSILYLISOCYANATE, 85% (1118-02-1)	
ATE US (vapors)	3.529 mg/l/4h
Hexamethyldisiloxane (107-46-0)	
LC50 inhalation rat (ppm)	15956 ppm/4h
LDLo oral guinea pig	32500 mg/kg
ATE US (gases)	15956 ppmV/4h
Trimethylsilylisocyanate (1118-02-1)	
ATE US (vapors)	3 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/effects after inhalation	: May cause respiratory irritation. Low exposure levels may cause headaches. At slightly higher levels palpitation, ataxia, weakness and cyanosis (blue-gray coloring of skin, lips and fingernails caused by lack of oxygen may be observed).
Symptoms/effects after skin contact	: Causes skin irritation. Allergic sensitization may occur.
Symptoms/effects after eye contact	: Causes serious eye irritation. Bloodshot eyes are a result of vapor contact by the eyes or inhalation.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Hexamethyldisiloxane (107-46-0)	
LC50 fish 1	3.02 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

12.2. Persistence and degradability

Hexamethyldisiloxane (107-46-0)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Hexamethyldisiloxane (107-46-0)	
BCF fish 1	1300
Log Pow	4.2

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the ozone layer : No additional information available

TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet

SECTION 13: Disposal considerations

13.1. Disposal methods

- Sewage disposal recommendations : Do not dispose of waste into sewer.
- Product/Packaging disposal recommendations : 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) : 2478
- DOT NA no. UN2478

14.2. UN proper shipping name

- Transport document description : UN2478 Isocyanates, flammable, toxic, n.o.s. (TRIMETHYLSILYLISOCYANATE), 3 (6.1), II
- Proper Shipping Name (DOT) : Isocyanates, flammable, toxic, n.o.s.
(TRIMETHYLSILYLISOCYANATE)
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Packing group (DOT) : II - Medium Danger
- Hazard labels (DOT) : 3 - Flammable liquid
6.1 - Poison



- Dangerous for the environment : Yes
- Marine pollutant : Yes



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
- DOT Packaging Bulk (49 CFR 173.xxx) : 243
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150
- DOT Symbols : G - Identifies PSN requiring a technical name

14.3. Additional information

- Emergency Response Guide (ERG) Number : 155
- 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) : 1 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

SECTION 15: Regulatory information

15.1. US Federal regulations

Hexamethyldisiloxane (107-46-0)

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

Trimethylsilylisocyanate (1118-02-1)

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

TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet

15.2. International regulations

CANADA

Hexamethyldisiloxane (107-46-0)

Listed on the Canadian DSL (Domestic Substances List)

Trimethylsilylisocyanate (1118-02-1)

Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations

Hexamethyldisiloxane (107-46-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Trimethylsilylisocyanate (1118-02-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Hexamethyldisiloxane (107-46-0)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
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 INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

Trimethylsilylisocyanate (1118-02-1)

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

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Full text of H-phrases::

H225	Highly flammable liquid and vapor
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

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.

Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

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TRIMETHYLSILYLISOCYANATE, 85%

Safety Data Sheet

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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