

Printing date 07/29/2016

Reviewed on 07/29/2016

1 Identification

- **Product name**
- **Trade name:** Trimethylsilane, 97%
- **Item number:** 14-7925
- **CAS Number:**
993-07-7
- **EC number:**
213-603-0
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Strem Chemicals, Inc.
7 Mulliken Way
NEWBURYPORT, MA 01950
USA
info@strem.com
- **Information department:** Technical Department
- **Emergency telephone number:**
EMERGENCY: CHEMTREC: + 1 (800) 424-9300
During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Gas 1 H220 Extremely flammable gas.



GHS04 Gas cylinder

Press. Gas H280 Contains gas under pressure; may explode if heated.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS04



GHS07

- **Signal word** *Danger*

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• **Hazard statements**

- H220 Extremely flammable gas.
- H280 Contains gas under pressure; may explode if heated.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

• **Precautionary statements**

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P410 Protect from sunlight.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



• **HMIS-ratings (scale 0 - 4)**



• **Other hazards**

• **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

• **Chemical characterization: Substances**

• **CAS No. Description**

993-07-7 Trimethylsilane, 97%

• **Identification number(s)**

• **EC number:** 213-603-0

4 First-aid measures

• **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.

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Avoid contact with the eyes and skin.

• **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

• **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

• **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

• **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:	Gaseous
Color:	Colorless
Odor:	Characteristic
Odor threshold:	Not determined.

• **pH-value:** Not determined.

• **Change in condition**

Melting point/Melting range:	-135.9 °C (-213 °F)
Boiling point/Boiling range:	6.7 °C (44 °F)

• **Flash point:** -70 °C (-94 °F)

• **Flammability (solid, gaseous):** Flammable.

• **Ignition temperature:**

Decomposition temperature: Not determined.

• **Auto igniting:** Not determined.

• **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

• **Explosion limits:**

Lower: 1.3 Vol %

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Upper:	44 Vol %
· Vapor pressure:	no data hPa
· Density at 20 °C (68 °F):	0.638 g/cm ³ (5.324 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
VOC content:	0.0 g/l / 0.00 lb/gl
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

US

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| · UN-Number | |
| · DOT, IMDG, IATA | UN3161 |
| · UN proper shipping name | |
| · DOT, IATA | Liquefied gas, flammable, n.o.s. (Trimethylsilane, 97%) |
| · IMDG | LIQUEFIED GAS, FLAMMABLE, N.O.S. (Trimethylsilane, 97%) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 2.1 |
| · Label | 2.1 |
| <hr style="border-top: 1px dashed #000;"/> | |
| · IMDG, IATA | |
|  | |
| · Class | 2.1 |
| · Label | 2.1 |

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· Packing group · DOT, IATA	not regulated
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user · EMS Number: · Stowage Category · Stowage Code	Warning: Gases F-D,S-U D SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information: · DOT · Quantity limitations	On passenger aircraft/rail: Forbidden On cargo aircraft only: 150 kg
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	0 Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation":	UN 3161 LIQUEFIED GAS, FLAMMABLE, N.O.S. (TRIMETHYLSILANE, 97%), 2.1

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

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· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS04 GHS07

· **Signal word** Danger

· **Hazard statements**

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P410 Protect from sunlight.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Technical Department.

· **Contact:** Technical Director

· **Date of preparation / last revision** 07/29/2016 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Gas 1: Flammable gases, Hazard Category 1

Press. Gas: Gases under pressure: Compressed gas

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

US