



# TETRAMETHYLSILANE 99.9%

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 12/16/2010 Revision date: 12/22/2022 Supersedes: 1/16/2016 Version: 6.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Substance name : TETRAMETHYLSILANE 99.9%  
Chemical name : Tetramethylsilane  
IUPAC name : Tetramethylsilane  
CAS-No. : 75-76-3  
Product code : DLM-43  
Formula : (CH<sub>3</sub>)<sub>4</sub>Si

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Cambridge Isotope Laboratories, Inc.  
50 Frontage Rd  
01810  
ANDOVER, MA, 01810  
USA  
T 1-800-322-1174  
[cilsales@isotope.com](mailto:cilsales@isotope.com) - [www.isotope.com](http://www.isotope.com)

#### 1.4. Emergency telephone number

Emergency number : 1-703-741-5970  
Chemtrec 1-800-424-9300 24 hours

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Flammable liquids Category 1 H224 Extremely flammable liquid and vapor  
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) : H224 - Extremely flammable liquid and vapor  
Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks  
P233 - Keep container tightly closed.  
P240 - Ground/Bond container and receiving equipment.  
P241 - Use explosion-proof electrical, lighting, ventilating equipment.  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P280 - Wear protective clothing, protective gloves.

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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 Dry chemical, Alcohol resistant foam, Carbon dioxide. to extinguish.

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

P501 - Dispose of contents/container to Dispose in a safe manner in accordance with local/national regulations.

### 2.3. Other hazards which do not result in classification

No additional information available

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

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS US classification
TETRAMETHYLSILANE 99.9% (Main constituent)	CAS-No.: 75-76-3	100	Flam. Liq. 1, H224

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 : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact : Wash off with soap and plenty of water. Consult a physician.

First-aid measures after eye contact : Flush eyes with water as a precaution.

First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation.

Symptoms/effects after eye contact : May cause eye irritation.

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

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide.  
For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

#### 5.2. Specific hazards arising from the chemical

Fire hazard : Extremely flammable liquid and vapor.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.  
Other information : Use water spray to cool unopened containers.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### 6.3. Methods and material for containment and cleaning up

For containment : For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.  
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place.  
Storage conditions : Store refrigerated (-5 °C - 5 °C) and desiccated.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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##### USA - ACGIH - Occupational Exposure Limits

ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
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#### 8.2. Appropriate engineering controls

No additional information available

#### 8.3. Individual protection measures/Personal protective equipment

##### Personal protective equipment:

Self-contained breathing apparatus. Protective goggles. Protective clothing. Gloves.

##### Hand protection:

Wear suitable protective clothing and gloves

##### Eye protection:

Wear safety glasses with side shields (or goggles) and a face shield.

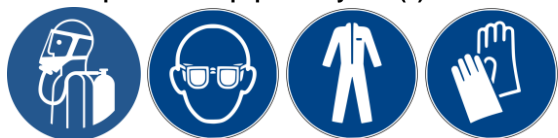
##### Skin and body protection:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

##### Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

##### Personal protective equipment symbol(s):



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Liquid.
Color	: Colorless
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: -99 °C Source: ChemIDplus
Freezing point	: No data available
Boiling point	: 26.6 °C Source: ChemIDplus
Flash point	: -54 °C Source: Akron
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 718 mm Hg Source: ChemIDplus
Relative vapor density at 20°C	: No data available
Relative density	: 0.677 Source: Lookchem

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Density	: 0.63 g/cm <sup>3</sup> Type: 'density' Temp.: 25 °C
Molecular mass	: 88.22 g/mol Source: Lookchem
Solubility	: Water: 19.6 mg/l
Partition coefficient n-octanol/water (Log Pow)	: 3.24 Source: ChemIDplus
Auto-ignition temperature	: 345 °C Source: Akron
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Upper explosion limit: 1 – 37.9 % Source: Akron
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Vapours may form explosive mixture with air.

### 10.2. Chemical stability

Stable if stored under recommended conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

### 10.5. Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Formed under fire conditions: Carbon oxides, silicon oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: other:
LC50 Inhalation - Rat	> 21.3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: other:

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified

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Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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LC50 - Fish [1]	1.9 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 103 mg/l Test organisms (species): Daphnia magna

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### TETRAMETHYLSILANE 99.9% (75-76-3)

Partition coefficient n-octanol/water (Log Pow)	3.24 Source: ChemIDplus
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other adverse effects : Disposal must be done according to official regulations.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

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### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

#### 14.1. UN number

DOT NA No : UN2749  
UN-No. (TDG) : UN2749  
UN-No. (IMDG) : 2749  
UN-No. (IATA) : 2749

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Tetramethylsilane  
Proper Shipping Name (TDG) : TETRAMETHYLSILANE  
Proper Shipping Name (IMDG) : TETRAMETHYLSILANE  
Proper Shipping Name (IATA) : Tetramethylsilane

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

##### DOT

Transport hazard class(es) (DOT) : 3  
Hazard labels (DOT) : 3



##### TDG

Transport hazard class(es) (TDG) : 3  
Hazard labels (TDG) : 3



##### IMDG

Transport hazard class(es) (IMDG) : 3  
Hazard labels (IMDG) : 3



##### IATA

Transport hazard class(es) (IATA) : 3  
Hazard labels (IATA) : 3



#### 14.4. Packing group

Packing group (DOT) : I  
Packing group (TDG) : I  
Packing group (IMDG) : I

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Packing group (IATA) : I

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

UN-No.(DOT) : UN2749  
DOT Special Provisions (49 CFR 172.102) : A7 - Steel packaging must be corrosion-resistant or have protection against corrosion.  
T14 - 6 mm Prohibited 178.275(g)(3).  
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 201  
DOT Packaging Bulk (49 CFR 173.xxx) : 243  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L  
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.

#### TDG

UN-No. (TDG) : UN2749  
Explosive Limit and Limited Quantity Index : 0  
Excepted quantities (TDG) : E0  
Passenger Carrying Ship Index : Forbidden  
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : Forbidden  
Emergency Response Guide (ERG) Number : 130

#### IMDG

Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P001  
Tank instructions (IMDG) : T14  
Tank special provisions (IMDG) : TP2  
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS  
EmS-No. (Spillage) : S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS  
Stowage category (IMDG) : D  
Flash point (IMDG) : below -18°C c.c.  
Properties and observations (IMDG) : Colourless, volatile liquid. Flashpoint: below -18°C c.c. Boiling point: 27°C. Immiscible with water. Harmful if swallowed or by inhalation. Irritating to skin, eyes and mucous membranes.  
MFAG-No : 130

#### IATA

PCA Excepted quantities (IATA) : E0  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA packing instructions (IATA) : Forbidden  
PCA max net quantity (IATA) : Forbidden



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CAO packing instructions (IATA) : 361  
CAO max net quantity (IATA) : 30L  
Special provision (IATA) : A1  
ERG code (IATA) : 3H

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### TETRAMETHYLSILANE 99.9% (75-76-3)

Not subject to reporting requirements of the United States SARA Section 313

SARA Section 311/312 Hazard Classes	Fire hazard
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Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
TETRAMETHYLSILANE 99.9%	75-76-3	Present	Active	

### 15.2. International regulations

#### CANADA

#### TETRAMETHYLSILANE 99.9% (75-76-3)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

#### TETRAMETHYLSILANE 99.9% (75-76-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on TECI (Thailand Existing Chemicals Inventory)

### 15.3. US State regulations

#### TETRAMETHYLSILANE 99.9% (75-76-3)

State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List
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## SECTION 16: Other information

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Revision date : 12/22/2022

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

#### Full text of H-phrases

H224	Extremely flammable liquid and vapor
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Safety Data Sheet (SDS), USA

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