

# Safety Data Sheet AB 111419

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878 - Europe

Date of revision 17.01.2025

Version 0.13

# 1. Identification of the Substance and the Company

### 1.1 Product identifier

**Product name** Tetramethylsilane; 99.9% (NMR grade)

CAS number 75-76-3 Product code AB111419

#### 1.2 Identified uses

Chemikalien für Forschung und Entwicklung, Analytik und Produktion

### 1.3 Details of the supplier of the safety data sheet

Company details abcr GmbH

Im Schlehert 10 76187 Karlsruhe

Germany

Telephone +49 (0)721 950 610 Email sdb@abcr.com

# 1.4 Emergency telephone number

Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463 (multilingual)

### 2. Hazards identification

### 2.1 Classification of the substance or mixture

Product definition Substance

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

H224 FLAMMABLE LIQUIDS Category 1 H411 AQUATIC HAZARD (LONG-TERM) Category 2

### 2.2 Label elements

**Hazard pictograms** 





Signal word Danger

**Hazard statements** H224 - Extremely flammable liquid and vapor.

H411 - Toxic to aquatic life with long lasting effects.

AB 111419 Tetramethylsilane; 99.9% (NMR grade)

1/15



**Precautionary statements** P280 - Wear protective gloves, protective clothing, eye protection, face

protection, or hearing protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other

ignition sources. No smoking.

P273 - Avoid release to the environment.

P391 - Collect spillage.

Hazardous ingredients

Tetramethylsilane; 99.9% (NMR grade)

Supplemental label elements

Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

### 2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

PBT	Р	В	Т	vPvB	vΡ	vB
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Other hazards which do not result in classification

None known.

See Section 11 for more detailed information on health effects and symptoms.

# 3. Composition/information on ingredients

#### Substance/mixture

Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Specific Conc. Limits, M-factors and ATEs	Туре
Tetramethylsilane; 99.9% (NMR grade)	EC: 200-899-1 CAS: 75-76-3	100	Flam. Liq. 1, H224 Aquatic Chronic 2, H411	-	[1]
			See Section 16 for the full text of the H statements declared above.		

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

### **Type**

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.



### 4. First aid measures

### 4.1 Description of first aid measures

**Eye contact** Immediately flush eyes with plenty of water, occasionally lifting the upper and

lower eyelids. Check for and remove any contact lenses. Get medical attention

if irritation occurs.

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for

breathing.

**Skin contact** Wash contaminated skin with soap and water. Remove contaminated clothing

and shoes. Get medical attention if symptoms occur.

Ingestion Wash out mouth with water. If material has been swallowed and the exposed

person is conscious, give small quantities of water to drink. Do not induce

vomiting unless directed to do so by medical personnel.

**Protection of first-aiders**No action shall be taken involving any personal risk or without suitable training.

### 4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects No known significant effects or critical hazards.

Over-exposure signs/

symptoms

No specific data.

### 4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

**Specific treatments** No specific treatment.

# 5. Fire-fighting measures

## 5.1 Extinguishing media

**Suitable extinguishing media** Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing

media

Do not use water jet.

## 5.2 Special hazards arising from the substance or mixture

Hazards from the substance

or mixture

Extremely flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any

waterway, sewer or drain.

Hazardous combustion

products

Decomposition products may include the following materials: carbon dioxide

carbon monoxide metal oxide/oxides

# 5.3 Advice for firefighters



Special precautions for fire-

fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment

for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

### 6. Accidental release measures

# 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel No action shall be taken involving any personal risk or without suitable training.

Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate

personal protective equipment.

For emergency responders If specialized clothing is required to deal with the spillage, take note of any

information in Section 8 on suitable and unsuitable materials. See also the

information in "For non-emergency personnel".

### 6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and materials for containment and cleaning up

Small spill Stop leak if without risk. Move containers from spill area. Use spark-proof tools

and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste

disposal contractor.

Large spill Stop leak if without risk. Move containers from spill area. Use spark-proof tools

and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated

absorbent material may pose the same hazard as the spilled product.

# 6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.



# 7. Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** 

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

Store between the following temperatures: 2 to 8°C (35,6 to 46,4°F). Keep under inert atmosphere.

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

### Seveso Directive - Reporting thresholds

### Danger criteria

Notification and MAPP threshold	Safety report threshold
10 tonne 200 tonne	50 tonne

### 7.3 Specific end use(s)

Recommendations
Industrial sector specific solutions

Not available.

Not available.

AB111419

Tetramethylsilane; 99.9% (NMR grade)



# 8. Exposure controls/Personal protective equipment

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

### Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Derived effect levels** 

No DELs available.

Predicted effect concentrations

No PECs available.

### 8.2 Exposure controls

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.



**Body protection** Personal protective equipment for the body should be selected based on the

task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and

design requirements and test methods.

Other skin protection Appropriate footwear and any additional skin protection measures should be

selected based on the task being performed and the risks involved and should

be approved by a specialist before handling this product.

**Respiratory protection** Based on the hazard and potential for exposure, select a respirator that meets

the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other

important aspects of use.

**Environmental exposure** 

controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

# 9. Physical and chemical properties

# 9.1 Information on basic physical and chemical properties

**Appearance** 

Physical state Liquid.

**Color** Colorless to light yellow.

Odor Characteristic.
Odor threshold Not available.
pH Not available.

Melting point/freezing point -99°C Initial boiling point and boiling 26 to 27 °C

range

Flammability (solid, gas)

Upper/lower flammability or explosive limits

Not available.

Lower: 1%

Upper: 37,9%

Closed cup: -27°C

Auto-ignition temperature 340°C

**Decomposition temperature** Not available. **Viscosity** Not available.

Solubility(ies)
Not available.

Solubility at room temperature 0,02 g/l [H2O]

Partition coefficient: n-octanol/ 2.7

water

Vapor pressure 79,5 kPa

**Evaporation rate** 58,9 (butyl acetate = 1)

Relative densityNot available.Density0,648 g/cm³Vapor densityNot available.



Explosive properties Not available.

Oxidizing properties Not available.

Particle characteristics

Median particle size Not applicable.

9.2 Other information

Burning time Not applicable.
Burning rate Not applicable.

No additional information.

# 10. Stability and reactivity

# 10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

### 10.2 Chemical stability

Air sensitive. Handle under inert gas.

### 10.3 Possibility of hazardous reactions

Vapors may form explosive mixtures with air.

#### 10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. contact with air and moisture

### 10.5 Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials strong acids strong alkalis

### 10.6 Hazardous decomposition products

Organic acid vapors.

# 11. See toxicological information

# 11.1 Information on toxicological effects

### **Acute toxicity**

Conclusion/Summary Not available.

Acute toxicity estimates

N/A



Irritation/Corrosion

Conclusion/Summary Not available.

Sensitizer

Conclusion/Summary Not available.

Mutagenicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Conclusion/Summary Not available.

Teratogenicity

Conclusion/Summary Not available.

Information on the likely routes of exposure

Not available.

### Potential acute health effects

InhalationNo known significant effects or critical hazards.Skin contactNo known significant effects or critical hazards.IngestionNo known significant effects or critical hazards.Eye contactNo known significant effects or critical hazards.

## Symptoms related to the physical, chemical and toxicological characteristics

InhalationNo specific data.IngestionNo specific data.Skin contactNo specific data.Eye contactNo specific data.

# Delayed and immediate effects and also chronic effects from short and long term exposure

### **Short term exposure**

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.



### Potential chronic health effects

Not available.

Conclusion/Summary Not available.

GeneralNo known significant effects or critical hazards.CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.Developmental effectsNo known significant effects or critical hazards.Fertility effectsNo known significant effects or critical hazards.

### 11.2 Information on other hazards

# 11.2.1 Endocrine disrupting properties

Not available.

### 11.2.2 Other information

Not available.

# 12. Ecological Information

# 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Tetramethylsilane; 99.9% (NMR grade)	EC50 >103 mg/l	Daphnia	48 hours
,	LC50 1,9 mg/l	Fish	96 hours

Conclusion/Summary Not available.

### 12.2 Persistence and degradability

Conclusion/Summary Not available.

# 12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Tetramethylsilane; 99.9% (NMR grade)	2,7	-	Low

### 12.4 Mobility in soil

Soil/water partition coefficient Not available.

 $(K_{oc})$ 

Mobility Not available.

### 12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	Р	В	Т	vPvB	vΡ	νB
Tetramethylsilane; 99.9% (NMR grade)	N/A	N/A	N/A	N/A	N/A	N/A	N/A



### 12.6 Endocrine disrupting properties

Not available.

#### 12.7 Other adverse effects

No known significant effects or critical hazards.

# 13. Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

#### 13.1 Waste treatment methods

#### **Product**

**Methods of disposal** The generation of waste should be avoided or minimized wherever possible.

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should

not be disposed of untreated to the sewer unless fully compliant with the

requirements of all authorities with jurisdiction.

**Hazardous waste** The classification of the product may meet the criteria for a hazardous waste.

**Packaging** 

**Methods of disposal**The generation of waste should be avoided or minimized wherever possible.

Waste packaging should be recycled. Incineration or landfill should only be

considered when recycling is not feasible.

**Special precautions** This material and its container must be disposed of in a safe way. Care should

be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and

runoff and contact with soil, waterways, drains and sewers.

# 14. Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN2749	UN2749	UN2749	UN2749
14.2 UN proper shipping name	TETRAMETHYLSILANE	TETRAMETHYLSILANE	TETRAMETHYLSILANE. Marine pollutant (Tetramethylsilane; 99.9% (NMR grade))	Tetramethylsilane



14.3 Transport hazard class(es)	3	3	3	3
inazara siass(es)		<b>1 1 1 1 1 1 1 1 1 1</b>		
14.4 Packing group	I	I	I	I
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
14.6 Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  Hazard identification number 33  Limited quantity LQ3  Tunnel code (D/E)	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-E, _S-D_	The environmentally hazardous substance mark may appear if required by other transportation regulations.  Quantity limitation Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: 30 L. Packaging instructions: 304. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden. Packaging instructions: Forbidden.

# 14.7 Transport in bulk according to IMO instruments

Not available.



# 15. Regulatory information

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

### EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

**Annex XIV** 

None of the components are listed.

#### Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Other EU regulations

Industrial emissions (integrated pollution

Not listed

prevention and control) - Air

Industrial emissions

Not listed

(integrated pollution

prevention and control) - Water

#### Ozone depleting substances (1005/2009/EU)

Not listed.

### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

### **Persistent Organic Pollutants**

Not listed.

### **Seveso Directive**

This product is controlled under the Seveso Directive.

### **Danger criteria**

# Category P5a

E2

### International regulations

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### **Montreal Protocol**

Not listed.



### **Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)** 

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals** 

Not listed.

**Inventory list** 

China This material is listed or exempted.Canada This material is listed or exempted.Australia This material is listed or exempted.

Eurasian Economic Union Russian Federation inventory: This material is listed or exempted.

Japan inventory (CSCL): This material is listed or exempted.

Japan inventory (ISHL): Not determined.

New ZealandThis material is listed or exempted.PhilippinesThis material is listed or exempted.Republic of KoreaThis material is listed or exempted.TaiwanThis material is listed or exempted.

Thailand Not determined.
Turkey Not determined.

United States This material is listed or exempted.

Viet Nam This material is listed or exempted.

15.2 Chemical Safety

**Assessment** 

Not available.

### 16. Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.

1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

# Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 1, H224 Aquatic Chronic 2, H411	Expert judgment Expert judgment



Full text of abbreviated H

statements

H224 Extremely flammable liquid and vapor. H411 Toxic to aquatic life with long lasting effects.

Full text of classifications

[CLP/GHS]

Aquatic Chronic 2 Flam. Liq. 1

AQUATIC HAZARD (LONG-TERM) - Category 2

AQUATIC HAZARD (LONG-TERM) - Category 2

FLAMMABLE LIQUIDS - Category 1

Full text of classifications

[CLP/GHS]

Date of issue/ Date of

revision Version

Aquatic Chronic 2 Flam. Liq. 1 17.01.2025

0.13

FLAMMABLE LIQUIDS - Category 1

Notice to reader

The above information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application.