



TETRAMETHYLtin, 99%

Safety Data Sheet SN7560.1

Date of issue: 13/01/2015

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Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Physical state	: Liquid
Substance name	: TETRAMETHYLtin, 99%
Product code	: SN7560.1
Formula	: C ₄ H ₁₂ Sn
Synonyms	: TETRAMETHYLSTANNANE
Chemical family	: ORGANOTIN

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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

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 1	H310
Acute toxicity (inhalation:vapour) Category 2	H330
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02



GHS06



GHS09

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Signal word (CLP)	: Danger
Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. H300+H310+H330 - Fatal if swallowed, in contact with skin or if inhaled H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection. 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. P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Mono-constituent
Name	: TETRAMETHYLTIN, 99%
CAS-No.	: 594-27-4
EC-No.	: 209-833-6

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tetramethyltin	(CAS-No.) 594-27-4 (EC-No.) 209-833-6	99 - 100	Flam. Liq. 2, H225 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:vapour), H330 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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. Immediately call a POISON CENTER/doctor.
First-aid measures after skin contact	: Wash with plenty of water/.... Immediately call a POISON CENTER/doctor.
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. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects after inhalation	: Fatal if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. At low levels exposure to tetramethyltin may produce coughing, headache and nausea. Tetramethyltin has been reported to cause bradycardia, hypertension, nausea, vomiting, irritation of upper and lower respiratory systems, abrupt variation in sinus rhythm and short term memory loss. At higher levels tetramethyltin has been reported to cause damage to brain cells in the limbic system.
Symptoms/effects after skin contact	: Fatal in contact with skin. May cause skin irritation. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact	: May cause eye irritation. The onset of irritation may not occur until several hours after exposure.
Symptoms/effects after ingestion	: Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: Tetramethyltin has been shown to have similar metabolic products to trimethylchlorotin. Trimethylchlorotin is a cumulative toxin. Symptomatic manifestations can follow exposure up to five days. Reported symptoms include memory loss, exhibition of rage and anger, and reduction of sexual function.

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

Note to physician: Application of corticosteroid creams has been effective in treating severe skin irritation. If blisters develop, they may require abrasion to promote healing.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame. Moderately toxic by inhalation.
Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

Firefighting instructions : Use water spray to cool exposed surfaces. 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.

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". Self-contained breathing apparatus should be worn at all times to avoid inhalation.

6.2. Environmental precautions

Avoid release to the environment. 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 : Collect spillage. Clean up any spills as soon as possible, using an absorbent material to collect it. Use only non-sparking tools.

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour 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 contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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 : Air. Direct sunlight. Oxidizing agent.
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

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Tetramethyltin (594-27-4)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ as tin (41ppb TMT equiv)

8.2. Exposure controls

Appropriate engineering controls:

Handle in an enclosing hood with exhaust ventilation. Insure that exhaust is vented properly- caustic scrubbing is recommended.

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 or face shield. 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	: 178.83 g/mol
Colour	: Colourless.
Odour	: No data available
Odour threshold	: No data available
Refractive index	: 1.441
pH	: No data available
Relative evaporation rate (butylacetate=1)	: > 1
Melting point	: -54 °C
Freezing point	: No data available
Boiling point	: 74 - 75 °C
Flash point	: -12 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour.
Vapour pressure	: 90 mm Hg @ 20°C
Relative vapour density at 20 °C	: 6.17
Relative density	: 1.291
% Volatiles	: 100 %
Solubility	: Insoluble in 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	: 1.9 vol % (LEL)

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Direct sunlight in air causes slow degradation to an inorganic tin salt. Avoid contact with tin IV chloride as highly toxic trimethylchlorotin may form.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Air. Direct sunlight. Oxidizing agent.

10.6. Hazardous decomposition products

Organic acid vapors. Organotin compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.

TETRAMETHYLtin, 99% (594-27-4)

ATE CLP (oral)	5 mg/kg bodyweight
ATE CLP (dermal)	5 mg/kg bodyweight
ATE CLP (vapours)	0.5 mg/l/4h

Tetramethyltin (594-27-4)

LD50 oral rat	195 - 331 mg/kg
LD50 intravenous rat	7 - 13 mg/kg
LCLo inhalation mouse	2550 mg/m ³ 10M
ATE CLP (oral)	5 mg/kg bodyweight
ATE CLP (dermal)	5 mg/kg bodyweight
ATE CLP (vapours)	0.5 mg/l/4h

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: Fatal if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. At low levels exposure to tetramethyltin may produce coughing, headache and nausea. Tetramethyltin has been reported to cause bradycardia, hypertension, nausea, vomiting, irritation of upper and lower respiratory systems, abrupt variation in sinus rhythm and short term memory loss. At higher levels tetramethyltin has been reported to cause damage to brain cells in the limbic system.
Symptoms/effects after skin contact	: Fatal in contact with skin. May cause skin irritation. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact	: May cause eye irritation. The onset of irritation may not occur until several hours after exposure.
Symptoms/effects after ingestion	: Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: Tetramethyltin has been shown to have similar metabolic products to trimethylchlorotin. Trimethylchlorotin is a cumulative toxin. Symptomatic manifestations can follow exposure up to five days. Reported symptoms include memory loss, exhibition of rage and anger, and reduction of sexual function.

SECTION 12: Ecological information

12.1. Toxicity

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

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Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment 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 vapours are flammable.
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. (TETRAMETHYLTIN), 6.1 (3), I, (C/D), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG) : UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (TETRAMETHYLTIN), 6.1 (3), I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA) : UN 3384 Toxic by inhalation liquid, flammable, n.o.s. (TETRAMETHYLTIN), 6.1, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN) : UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (TETRAMETHYLTIN), 6.1 (3), I, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID) : UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S (TETRAMETHYLTIN), 6.1 (3), ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

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



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IMDG

Transport hazard class(es) (IMDG) : 6.1 (3)

Danger labels (IMDG) : 6.1, 3



IATA

Transport hazard class(es) (IATA) : 6.1



ADN

Transport hazard class(es) (ADN) : 6.1 (3)

Danger labels (ADN) : 6.1, 3



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) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes
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
Vehicle for tank carriage : FL
Transport category (ADR) : 1
Hazard identification number (Kemler No.) : 663

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Orange plates

: **663**
3384

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
Tank special provisions (IMDG) : TP2, TP13
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D
Stowage category (IMDG) : D
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

No data available

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

TETRAMETHYLTIN, 99% is not on the REACH Candidate List

TETRAMETHYLTIN, 99% is not on the REACH Annex XIV List

TETRAMETHYLTIN, 99% 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.

TETRAMETHYLTIN, 99% 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

Germany

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

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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

Classification remarks	: 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 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 2 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

SDS EU (REACH Annex II) - Custom

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