

TETRAETHYL TIN

Safety Data Sheet SNT7270

Date of issue: 11/06/2015

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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	: TETRAETHYL TIN
Product code	: SNT7270
Formula	: C ₈ H ₂₀ Sn
Synonyms	: TETRAETHYLSTANNANE
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**GELEST, INC.**11 East Steel Road
Morrisville, PA 19067**USA**

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info@gelestde.com - www.gelestde.com**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 3 H226

Acute toxicity (oral), Category 2 H300

Hazardous to the aquatic environment — Acute Hazard, Category 1 H400

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

Signal word (CLP) : Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapour.
H300 - Fatal if swallowed.
H400 - Very toxic to aquatic life.

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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.
P264 - Wash hands thoroughly after handling.
P301+P310 - IF SWALLOWED: Immediately call a doctor.
P273 - Avoid release to the environment.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : TETRAETHYL TIN
CAS-No. : 597-64-8
EC-No. : 209-906-2

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tetraethyltin	(CAS-No.) 597-64-8 (EC-No.) 209-906-2	95 - 100	Flam. Liq. 3, H226 Acute Tox. 2 (Oral), H300 Aquatic Acute 1, H400

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. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of 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 immediate medical advice/attention.

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

Symptoms/effects after inhalation : At low levels exposure to tetraethyltin may produce coughing, headache and nausea. Tetraethyltin 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 tetraethyltin has been reported to cause damage to brain cells in the limbic system. At higher levels tetraethyltin has been reported to cause damage to brain cells in the limbic system.

Symptoms/effects after skin contact : May cause skin irritation. Organotins may be absorbed through the skin.

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

Symptoms/effects after ingestion : Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour. Toxic fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

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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.
- Other information : Evacuate area in case of release. Highly toxic by inhalation. Self-contained breathing apparatus should be worn at all times to avoid inhalation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper 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

- 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.

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

- Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid all eye and skin contact and do not breathe vapour and mist. Provide good ventilation in process area to prevent formation of vapour. Containers must be properly grounded before beginning transfer. Take precautionary measures against static discharge. Use only non-sparking tools.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. 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. Ground/bond container and receiving equipment.
- Storage conditions : Keep container tightly closed. Store in sealed containers in a manner consistent with safe-handling and regulatory requirements for a hazardous substance.
- Incompatible materials : Direct sunlight. Oxidizing agent. Tin IV chloride.
- 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

Tetraethyltin (597-64-8)

Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	0.1 mg/m ³ as tin
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8.2. Exposure controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation. Insure that exhaust is vented properly- caustic scrubbing is recommended. Handle in an enclosing hood with exhaust ventilation.

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

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Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid.
Molecular mass	: 234.94 g/mol
Colour	: Colourless.
Odour	: No data available
Odour threshold	: No data available
Refractive index	: 1.4725
pH	: No data available
Relative evaporation rate (butylacetate=1)	: < 1
Melting point	: No data available
Freezing point	: -112 °C
Boiling point	: 181 °C
Flash point	: 53 °C TCC
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: 1 mm Hg @ 33 °C
Relative vapour density at 20 °C	: > 1
Relative density	: 1.187
% 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	: 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.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Direct sunlight. Oxidizing agent. Tin IV chloride.

10.6. Hazardous decomposition products

Organic acid vapors. Tin oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Fatal if swallowed.

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TETRAETHYL TIN (597-64-8)	
ATE CLP (oral)	9.474 mg/kg bodyweight
Tetraethyltin (597-64-8)	
LD50 oral rat	9 - 16 mg/kg
LD50 oral mouse	39.8 mg/kg
ATE CLP (oral)	9 mg/kg bodyweight

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
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: At low levels exposure to tetraethyltin may produce coughing, headache and nausea. Tetraethyltin 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 tetraethyltin has been reported to cause damage to brain cells in the limbic system. At higher levels tetraethyltin has been reported to cause damage to brain cells in the limbic system.
Symptoms/effects after skin contact	: May cause skin irritation. Organotin may be absorbed through the skin.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Very toxic to aquatic life.
Chronic aquatic toxicity	: Not classified

Tetraethyltin (597-64-8)	
LC50 fish 1	0.00958 - 0.0125 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

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

Other adverse effects : This substance may be hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
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)	: 2788
UN-No. (IMDG)	: 2788
UN-No. (IATA)	: 2788

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UN-No. (ADN) : 2788
UN-No. (RID) : 2788

14.2. UN proper shipping name

Proper Shipping Name (ADR) : ORGANOTIN COMPOUND, LIQUID, N.O.S.
Proper Shipping Name (IMDG) : ORGANOTIN COMPOUND, LIQUID, N.O.S.
Proper Shipping Name (IATA) : Organotin compound, liquid, n.o.s.
Proper Shipping Name (ADN) : ORGANOTIN COMPOUND, LIQUID, N.O.S.
Proper Shipping Name (RID) : ORGANOTIN COMPOUND, LIQUID, N.O.S.
Transport document description (ADR) : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TETRAETHYL TIN), 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG) : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TETRAETHYL TIN), 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA) : UN 2788 Organotin compound, liquid, n.o.s. (TETRAETHYL TIN), 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN) : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TETRAETHYL TIN), 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID) : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TETRAETHYL TIN), 6.1, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

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



IMDG

Transport hazard class(es) (IMDG) : 6.1
Danger labels (IMDG) : 6.1



IATA

Transport hazard class(es) (IATA) : 6.1
Hazard labels (IATA) : 6.1



ADN

Transport hazard class(es) (ADN) : 6.1
Danger labels (ADN) : 6.1



RID

Transport hazard class(es) (RID) : 6.1

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Danger labels (RID) : 6.1



14.4. Packing group

Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

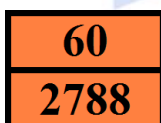
14.5. Environmental hazards

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) : T3
Special provisions (ADR) : 43, 274
Limited quantities (ADR) : 100ml
Excepted quantities (ADR) : E4
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T11
Portable tank and bulk container special provisions (ADR) : TP2, TP27
Tank code (ADR) : L4BH
Tank special provisions (ADR) : TU15, TE19
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28
Special provisions for carriage - Operation (ADR) : S9, S19
Hazard identification number (Kemler No.) : 60
Orange plates :



Tunnel restriction code (ADR) : D/E
EAC code : 2X
APP code : B

- Transport by sea

Special provisions (IMDG) : 43, 274
Limited quantities (IMDG) : 100 ml
Excepted quantities (IMDG) : E4
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T11
Tank special provisions (IMDG) : TP2, TP13, TP27
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-A
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2

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Properties and observations (IMDG) : A wide variety of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.

- Air transport

PCA Excepted quantities (IATA) : E4
PCA Limited quantities (IATA) : Y641
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 654
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 661
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3, A4, A6
ERG code (IATA) : 6L

- Inland waterway transport

Classification code (ADN) : T3
Special provisions (ADN) : 43, 274, 802
Limited quantities (ADN) : 100 ml
Excepted quantities (ADN) : E4
Equipment required (ADN) : PP, EP, TOX, A
Ventilation (ADN) : VE02
Number of blue cones/lights (ADN) : 2

- Rail transport

Classification code (RID) : T3
Special provisions (RID) : 43, 274
Limited quantities (RID) : 100ml
Excepted quantities (RID) : E4
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T11
Portable tank and bulk container special provisions (RID) : TP2, TP27
Tank codes for RID tanks (RID) : L4BH
Special provisions for RID tanks (RID) : TU15
Transport category (RID) : 2
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31
Colis express (express parcels) (RID) : CE5
Hazard identification number (RID) : 60

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

TETRAETHYL TIN is not on the REACH Candidate List

TETRAETHYL TIN is not on the REACH Annex XIV List

TETRAETHYL TIN 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.

TETRAETHYL TIN 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

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

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

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H300;H400>; 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

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. 2 (Oral)	Acute toxicity (oral), Category 2
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H300	Fatal if swallowed.
H400	Very toxic to aquatic life.

SDS EU (REACH Annex II) - Custom

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

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