

**CHLOROMETHYLTRIMETHYLTIN**

Safety Data Sheet SNC2308

Date of issue: 08/14/2015 Version: 1.0

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form : Substance  
 Physical state : Liquid  
 Substance name : CHLOROMETHYLTRIMETHYLTIN  
 Product code : SNC2308  
 Formula : C<sub>4</sub>H<sub>11</sub>ClSn  
 Synonyms : TRIBUTYLSTANNANE; TRIBUTYLHYDRIDOTIN; TRIBUTYLTIN  
 Chemical family : ORGANOTIN

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Use of the substance/mixture : Chemical intermediate  
 For research use only

**1.3. Details of the supplier of the safety data sheet****GELEST, INC.**

11 East Steel Road  
 Morrisville, PA 19067

**USA**

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.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 (GHS-US)**

Flam. Liq. 3 H226  
 Acute Tox. 3 (Oral) H301  
 Skin Irrit. 2 H315  
 Eye Irrit. 2A H319

Full text of H-phrases: see section 16

**2.2. Label elements****GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS02

GHS06

GHS07

Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

: H226 - Flammable liquid and vapor  
 H301 - Toxic if swallowed  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

: P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P210 - Keep away from heat, open flames, sparks. - No smoking  
 P233 - Keep container tightly closed  
 P240 - Ground/bond container and receiving equipment  
 P241 - Use explosion-proof electrical equipment  
 P242 - Use only non-sparking tools  
 P243 - Take precautionary measures against static discharge  
 P264 - Wash hands thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P330 - Rinse mouth  
 P301+P310 - If swallowed: Immediately call a doctor  
 P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower  
 P332+P313 - If skin irritation occurs: Get medical advice/attention  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

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P337+P313 - If eye irritation persists: Get medical advice/attention  
P321 - Specific treatment (see first aid instructions on this label)  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish  
P403+P235 - Keep in a cool place  
P405 - Store locked up  
P501 - Dispose of contents/container to licensed waste disposal facility.

### 2.3. Other hazards

No additional information available

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

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Substance type : Multi-constituent  
Name : CHLOROMETHYLTRIMETHYLTIN  
CAS No : 4554-90-9

Name	Product identifier	%	Classification (GHS-US)
Chloromethyltrimethyltin	(CAS No) 4554-90-9	> 95	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Other Organotins		< 5	Not classified

### 3.2. Mixture

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. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

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

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

Symptoms/injuries after 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/injuries after skin contact : Causes skin irritation. Organotins may be absorbed through the skin.

Symptoms/injuries after eye contact : Causes serious eye irritation.

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

Chronic symptoms : The related compound, 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.

### 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 : Do not use straight streams.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor. Irritating 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 vapor and mist.
- Other information : Moderately 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

- 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".

### 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

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- 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 : Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors. Containers must be properly grounded before beginning transfer. Take precautionary measures against static discharge. Use only non-sparking tools.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

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

- Technical measures : 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. 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

Other Organotin		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (Tin)
Chloromethyltrimethyltin (4554-90-9)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> as tin

### 8.2. Exposure controls

- Appropriate engineering controls : Provide local exhaust or general room 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. Contact lenses should not be worn.
- Skin and body protection : Wear suitable protective clothing.

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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 : 213.29 g/mol  
Color : Colorless.  
Odor : No data available  
Odor threshold : No data available  
Refractive index : 1.4863  
pH : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Melting point : No data available  
Freezing point : < 0 °C  
Boiling point : 70 °C @ 57 mm Hg  
Flash point : 39 °C  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Flammability (solid, gas) : Flammable liquid and vapor  
Vapor pressure : < 10 mm Hg @ 20°C  
Relative vapor density at 20 °C : > 1  
Relative density : 1.507  
VOC content : 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  
Oxidizing properties : No data available  
Explosion 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 trimethylchlorotin may form.

#### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

#### 10.5. Incompatible materials

Direct sunlight. Tin IV chloride.

#### 10.6. Hazardous decomposition products

Organic acid vapors. Organotin compounds.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed.

#### CHLOROMETHYLTRIMETHYLTIN (4554-90-9)

ATE US (oral)	105.263 mg/kg body weight
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Chloromethyltrimethyltin (4554-90-9)	
ATE US (oral)	100.000 mg/kg body weight
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after 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/injuries after skin contact	: Causes skin irritation. Organotins may be absorbed through the skin.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: The related compound, 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.
Reason for classification	: Expert judgment

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 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. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.  
Effect on ozone layer : No additional information available  
Effect on the global warming : No known ecological damage caused by this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.  
Waste 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

UN-No.(DOT) : 1992  
DOT NA no. UN1992

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable liquids, toxic, n.o.s.  
(CHLOROMETHYLTRIMETHYLTIN)  
Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

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Hazard labels (DOT) : 3 - Flammable liquid  
6.1 - Poison



DOT Symbols : G - Identifies PSN requiring a technical name  
Packing group (DOT) : II - Medium Danger  
DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 243

### 14.3. Additional information

Other information : No supplementary information available.

### Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" 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; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 1 L  
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L  
CFR 175.75)

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### CHLOROMETHYLTRIMETHYLTIN (4554-90-9)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

#### Chloromethyltrimethyltin (4554-90-9)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

No additional information available

### 15.3. US State regulations

#### CHLOROMETHYLTRIMETHYLTIN(4554-90-9)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

#### Other Organotins

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	No	No	No	

#### Chloromethyltrimethyltin (4554-90-9)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
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Chloromethyltrimethyltin (4554-90-9)				
No	No	No	No	

### 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.

#### Full text of H-phrases::

Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
H226	Flammable liquid and vapor
H301	Toxic if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation

#### HMIS III Rating

Health : 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures  
Flammability : 3 Serious Hazard  
Physical : 0 Minimal Hazard

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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