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

<table>
<thead>
<tr>
<th>1.1. Product identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product form</strong> : Substance</td>
</tr>
<tr>
<td><strong>Physical state</strong> : Liquid</td>
</tr>
<tr>
<td><strong>Substance name</strong> : 2-THIENYLTRI-n-BUTYL Tin, 95%</td>
</tr>
<tr>
<td><strong>Product code</strong> : SNT7909</td>
</tr>
<tr>
<td><strong>Formula</strong> : C16H30SSn</td>
</tr>
<tr>
<td><strong>Synonyms</strong> : 2-THIOPHENYLTRI-n-BUTYL STANNANE</td>
</tr>
<tr>
<td><strong>Chemical family</strong> : ORGANOTIN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2. Relevant identified uses and uses advised against</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.2.1. Relevant identified uses</strong></td>
</tr>
<tr>
<td>Use of the substance/mixture : Chemical intermediate</td>
</tr>
<tr>
<td><strong>1.2.2. Uses advised against</strong></td>
</tr>
<tr>
<td>No additional information available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3. Details of the supplier of the safety data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GELEST, INC.</strong></td>
</tr>
<tr>
<td>11 East Steel Road</td>
</tr>
<tr>
<td>Morrisville, PA 19067</td>
</tr>
<tr>
<td>USA</td>
</tr>
<tr>
<td>T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST</td>
</tr>
<tr>
<td><a href="mailto:info@gelest.com">info@gelest.com</a> - <a href="http://www.gelest.com">www.gelest.com</a></td>
</tr>
</tbody>
</table>

| **GELEST INC.** |
| Fritz-Klatte-Strasse 8 |
| 65933 Frankfurt |
| Germany |
| T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM |
| info@gelestde.com - www.gelestde.com |

<table>
<thead>
<tr>
<th>1.4. Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)</td>
</tr>
</tbody>
</table>

## SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>2.1. Classification of the substance or mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification according to Regulation (EC) No. 1272/2008 [CLP]</strong></td>
</tr>
<tr>
<td>Skin corrosion/irritation, Category 2 : H315</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation, Category 2 : H319</td>
</tr>
<tr>
<td>Full text of H statements : see section 16</td>
</tr>
</tbody>
</table>

Adverse physicochemical, human health and environmental effects
No additional information available

<table>
<thead>
<tr>
<th>2.2. Label elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Labelling according to Regulation (EC) No. 1272/2008 [CLP]</strong></td>
</tr>
<tr>
<td>Hazard pictograms (CLP) : GHS07</td>
</tr>
<tr>
<td>Signal word (CLP) : Warning</td>
</tr>
<tr>
<td>Hazard statements (CLP) : H315 - Causes skin irritation. H319 - Causes serious eye irritation.</td>
</tr>
<tr>
<td>Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection. P264 - Wash hands thoroughly after handling.</td>
</tr>
</tbody>
</table>
2-THIENYLTRI-n-BUTYLTIN, 95%
Safety Data Sheet

P302+P352 - IF ON SKIN: Wash with plenty of water.
P332+P313 - IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/ATTENTION.
P305+P351+P338 - IF IN EYES: RINSE CAUTIONILY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.
P337+P313 - IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Thienyltri-n-butylin</td>
<td>(CAS-No.) 54663-78-4</td>
<td>&gt; 95</td>
<td>Skin Irrit. 2, H315, Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>Other Organotins</td>
<td></td>
<td>&lt; 5</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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 medical advice/attention.

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

Symptoms/effects after inhalation:
May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.

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

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

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

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:

5.2. Special hazards arising from the substance or mixture

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

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

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.

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 vapour and mist. Provide good ventilation in process area to prevent formation of vapour.
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
Storage conditions: Keep container tightly closed.
Incompatible materials: Oxidizing agent. Direct sunlight.
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 Organotins**

<table>
<thead>
<tr>
<th>Source</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td></td>
<td>0.1 mg/m³ as tin</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>0.1 mg/m³ as tin</td>
</tr>
</tbody>
</table>

**2-Thienyltri-n-butyltin (54663-78-4)**

<table>
<thead>
<tr>
<th>Source</th>
<th>ACGIH TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>0.1 mg/m³ (Tin)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:
Provide local exhaust or general room 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

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
</tbody>
</table>
2-THIENYLTRI-n-BUTYLTIN, 95%
Safety Data Sheet

Molecular mass : 373.17 g/mol
Colour : Straw.
Odour : Mild.
Odour threshold : No data available
Refractive index : 1.518
pH : No data available
Relative evaporation rate (butylacetate=1) : < 1
Melting point : No data available
Freezing point : < 0 °C
Boiling point : 155 °C @ 0.1 mm Hg
Flash point : 106 °C
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : < 0.1 mm Hg @ 20°C
Relative vapour density at 20 °C : > 1
Relative density : 1.175
% Volatiles : < 3 %
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.

10.4. Conditions to avoid
Heat. Open flame. Sparks.

10.5. Incompatible materials
Oxidizing agent. Direct sunlight.

10.6. Hazardous decomposition products
Organic acid vapors. Tin oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
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
2-THIENYLTRI-n-BUTYL Tin, 95%
Safety Data Sheet

Symptoms/effects after inhalation: May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.
Symptoms/effects after skin contact: Causes skin irritation. Organotins may be absorbed through the skin.
Symptoms/effects after eye contact: Causes serious eye irritation.
Symptoms/effects after ingestion: May be harmful if swallowed.
Reason for classification: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

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
Product/Packaging disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.
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): Not applicable
UN-No. (IMDG): Not applicable
UN-No. (IATA): Not applicable
UN-No. (ADN): Not applicable
UN-No. (RID): Not applicable

14.2. UN proper shipping name
Proper Shipping Name (ADR): Not applicable
Proper Shipping Name (IMDG): Not applicable
Proper Shipping Name (IATA): Not applicable
Proper Shipping Name (ADN): Not applicable
Proper Shipping Name (RID): Not applicable

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR): Not applicable

IMDG
Transport hazard class(es) (IMDG): Not applicable

IATA
Transport hazard class(es) (IATA): Not applicable

ADN
Transport hazard class(es) (ADN): Not applicable

RID

Print date: 11/04/2019
EN (English)
SDS ID: SNT7909
2-THIENYLTRI-n-BUTYLTIN, 95%
Safety Data Sheet

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group
Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
No data available
- Transport by sea
No data available
- Air transport
No data available
- Inland waterway transport
No data available
- 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
2-THIENYLTRI-n-BUTYLTIN, 95% is not on the REACH Candidate List
2-THIENYLTRI-n-BUTYLTIN, 95% is not on the REACH Annex XIV List
2-THIENYLTRI-n-BUTYLTIN, 95% 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.

% Volatiles : < 3 %

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)

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
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:

| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |

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.