### SECTION 1: Identification

#### 1.1. Identification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name</strong></td>
<td>BIS(2-ETHYLHEXANOATE)TIN, tech-95</td>
</tr>
<tr>
<td><strong>Product code</strong></td>
<td>SNB1100</td>
</tr>
<tr>
<td><strong>Product form</strong></td>
<td>Substance</td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Formula</strong></td>
<td>C16H34O4Sn</td>
</tr>
<tr>
<td><strong>Synonyms</strong></td>
<td>TIN (II) OCTOATE; STANNOUS 2-ETHYLHEXOATE; TIN (II) 2-ETHYLHEXANOATE; TIN BIS(2-ETHANE-1-YLHEXANOATE)</td>
</tr>
<tr>
<td><strong>Chemical family</strong></td>
<td>ORGANOTIN</td>
</tr>
</tbody>
</table>

#### 1.2. Recommended use and restrictions on use

**Recommended use:** Chemical intermediate

#### 1.3. Supplier

**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 - www.gelest.com

**1.4. Emergency telephone number**

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

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

**GHS-US classification**

- **Serious eye damage/eye irritation Category 1**
  - H318 - Causes serious eye damage
- **Reproductive toxicity Category 2**
  - H361 - Suspected of damaging fertility or the unborn child
- **Hazardous to the aquatic environment - Acute Hazard Category 2**
  - H401 - Toxic to aquatic life

Full text of H statements: see section 16

#### 2.2. GHS Label elements, including precautionary statements

**GHS US labeling**

- **Signal word (GHS US):** Danger
- **Hazard pictograms (GHS US):**
  - [Eye with exclamation mark]
  - [Fertilizer symbol]

- **Hazard statements (GHS US):**
  - H318 - Causes serious eye damage
  - H361 - Suspected of damaging fertility or the unborn child
  - H401 - Toxic to aquatic life

- **Precautionary statements (GHS US):**
  - P201 - Obtain special instructions before use.
  - P202 - Do not handle until all safety precautions have been read and understood.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  - P273 - Avoid release to the environment.
  - P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
  - P310 - Immediately call a doctor
  - P405 - Store locked up.
  - P501 - Dispose of contents/container to licensed waste disposal facility.

#### 2.3. Hazards not otherwise classified (HNOC)

No additional information available

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

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

| Substance type | Multi-constituent |
BIS(2-ETHYLHEXANOATE)TIN, tech-95
Safety Data Sheet

Full text of hazard classes and 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 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.

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 (acute and delayed)
Symptoms/effects after inhalation: May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.

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

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

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

4.3. Immediate medical attention and special treatment, if necessary
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: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

5.2. Specific hazards arising from the chemical
Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters
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.

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 vapor and mist.

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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Bis(2-ethylhexanoate)tin (301-10-0)</th>
<th>ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³ (as tin)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2-Ethylhexanoic acid (149-57-5)</th>
<th>ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ (inhalable fraction and vapor)</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

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>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid. Viscous.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>405.11 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Amber.</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.495</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 110 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.28</td>
</tr>
</tbody>
</table>
% 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
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 in sealed containers stored under a dry inert atmosphere. Oxidizes slowly in the presence of air.

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

Bis(2-ethylhexanoate)tin (301-10-0)
LD50 oral rat : 5810 mg/kg
ATE US (oral) : 5810 mg/kg body weight

2-Ethylhexanoic acid (149-57-5)
LD50 oral rat : 1600 mg/kg
LD50 dermal rabbit : 1140 mg/kg
ATE US (oral) : 1600 mg/kg body weight
ATE US (dermal) : 1140 mg/kg body weight

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child.
Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified
Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.
Symptoms/effects after skin contact : May cause skin irritation.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : May be harmful if swallowed.
**SECTION 12: Ecological information**

12.1. **Toxicity**  
Ecology - water  
: Toxic to aquatic life.  

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fish 1</th>
<th>ErC50 (algae)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(2-ethylhexanoate)tin (301-10-0)</td>
<td>116 mg/kg</td>
<td>6.9 mg/l</td>
<td>Semi static test (Exposure time: 96 h - Species: Oncorhynchus mykiss - rainbow trout)</td>
</tr>
<tr>
<td>2-Ethylhexanoic acid (149-57-5)</td>
<td>70 mg/l</td>
<td>85.4 mg/l</td>
<td>(Exposure time: 96 h - Species: Pimephales promelas)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Exposure time: 48 h - Species: Daphnia magna)</td>
</tr>
</tbody>
</table>

12.2. **Persistence and degradability**  
No additional information available  

12.3. **Bioaccumulative potential**  

<table>
<thead>
<tr>
<th>Substance</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexanoic acid (149-57-5)</td>
<td>2.7</td>
</tr>
</tbody>
</table>

12.4. **Mobility in soil**  
No additional information available  

12.5. **Other adverse effects**  
Effect on the ozone layer  
: No additional information available  
Other adverse effects  
: This substance may be hazardous to the environment.  

**SECTION 13: Disposal considerations**

13.1. **Disposal 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**  
Not regulated for transport.  
14.2. **UN proper shipping name**  
Not applicable  
14.3. **Additional information**  
Other information  
: No supplementary information available.  

**Transport by sea**  
No additional information available  

**Air transport**  
No additional information available  

**SECTION 15: Regulatory information**

15.1. **US Federal regulations**  

<table>
<thead>
<tr>
<th>Substance</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(2-ethylhexanoate)tin (301-10-0)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>2-Ethylhexanoic acid (149-57-5)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>EPA TSCA Regulatory Flag</td>
<td>T - T - indicates a substance that is the subject of a final TSCA section 4 test rule.</td>
</tr>
</tbody>
</table>

15.2. **International regulations**  

**CANADA**  

<table>
<thead>
<tr>
<th>Substance</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(2-ethylhexanoate)tin (301-10-0)</td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
</tbody>
</table>
BIS(2-ETHYLHEXANOATE)TIN, tech-95
Safety Data Sheet

2-Ethylhexanoic acid (149-57-5)
Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification
Class E - Corrosive Material

EU Regulations

Bis(2-ethylhexanoate)tin (301-10-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

2-Ethylhexanoic acid (149-57-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Bis(2-ethylhexanoate)tin (301-10-0)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

2-Ethylhexanoic acid (149-57-5)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3 US State regulations
California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Bis(2-ethylhexanoate)tin (301-10-0)
U.S. - Massachusetts - Right To Know List

2-Ethylhexanoic acid (149-57-5)
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Full text of H-phrases:

H302    Harmful if swallowed
H312    Harmful in contact with skin
H315    Causes skin irritation
H318    Causes serious eye damage
H319    Causes serious eye irritation
H361    Suspected of damaging fertility or the unborn child
H401    Toxic to aquatic life
H402    Harmful to aquatic life

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.

Hazard Rating
- Health: 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class III B)
BIS(2-ETHYLHEXANOATE)TIN, tech-95
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Physical:
1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.
Date of issue: 11/11/2014 Version: 1.0

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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