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

1.1. Product identifier

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

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
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

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

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]

- Serious eye damage/eye irritation, Category 2 [H319]
- Reproductive toxicity, Category 2 [H361]

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]

<table>
<thead>
<tr>
<th>Hazard pictograms (CLP)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>GHS07</td>
</tr>
<tr>
<td>G</td>
<td>GHS08</td>
</tr>
</tbody>
</table>

Signal word (CLP): Warning

Hazard statements (CLP): H319 - Causes serious eye irritation.
H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements (CLP): P202 - Do not handle until all safety precautions have been read and understood.

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P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P305+P351+P338 - IF IN EYES: Rinse cautiously 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.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients
3.1. Substances
Substance type: Multi-constituent
Name: BIS(2-ETHYLHEXANOATE)TIN, tech-95
CAS-No.: 301-10-0
EC-No.: 206-108-6

<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>Bis(2-ethylhexanoate)tin</td>
<td>(CAS-No.) 301-10-0 (EC-No.) 206-108-6</td>
<td>&gt; 95</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>2-Ethylhexanoic acid</td>
<td>(CAS-No.) 149-57-5 (EC-No.) 205-743-6 (EC Index No.) 607-230-00-6</td>
<td>&lt; 5</td>
<td>Repr. 2, H361d</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/….
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: May cause skin irritation.
Symptoms/effects after eye contact: Causes serious eye damage.
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

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.
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

<table>
<thead>
<tr>
<th>Bis(2-ethylhexanoate)tin (301-10-0)</th>
<th>Italy - Portugal - USA ACGIH ACGIH TWA (mg/m³)</th>
<th>0.1 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexanoic acid (149-57-5)</td>
<td>Belgium Limit value (mg/m³)</td>
<td>5 mg/m³ (aerosol and vapor)</td>
</tr>
<tr>
<td></td>
<td>Italy - Portugal - USA ACGIH ACGIH TWA (mg/m³)</td>
<td>5 mg/m³ (inhalable fraction and vapor)</td>
</tr>
<tr>
<td></td>
<td>Ireland OEL (8 hours ref) (mg/m³)</td>
<td>4 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Ireland OEL (15 min ref) (mg/m3)</td>
<td>12 mg/m³ (calculated)</td>
</tr>
<tr>
<td></td>
<td>Portugal OEL TWA (mg/m³)</td>
<td>5 mg/m³ (inhalable fraction, aerosol and vapor)</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

Physical state : Liquid
Appearance : Clear liquid. Viscous.
Molecular mass : 405.11 g/mol
Colour : Amber.
Odour : Mild.
Odour threshold : No data available
Refractive index : 1.495
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : < 0 °C
Boiling point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : 1.28
% 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 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 CLP (oral) : 5810 mg/kg bodyweight

**2-Ethylhexanoic acid (149-57-5)**

LD50 oral rat : 1600 mg/kg
LD50 dermal rabbit : 1140 mg/kg

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2-Ethylhexanoic acid (149-57-5)

ATE CLP (oral) 3000 mg/kg bodyweight

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Suspected of damaging fertility or the unborn child.
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Symptoms/effects after inhalation: May cause irritation to the respiratory tract. Overexposure may cause: Cough. 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.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

Bis(2-ethylhexanoate)tin (301-10-0)

LC50 fish 1 116 mg/kg (Exposure time: 96 h - Species: Oncorhynchus mykiss- rainbow trout)
ErC50 (algae) 6.9 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata-green algae)

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential

2-Ethylhexanoic acid (149-57-5)

Log Pow 2.7

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.
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 | 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
BIS(2-ETHYLHEXANOATE)TIN, tech-95 is not on the REACH Candidate List
BIS(2-ETHYLHEXANOATE)TIN, tech-95 is not on the REACH Annex XIV List
BIS(2-ETHYLHEXANOATE)TIN, tech-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
Reference to AwSV: Water hazard class (WGK) 2, Significantly hazardous to water (Classification according to AwSV; ID No. 5356)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands
SZW-list van kankerverwekkende stoffen: The substance is not listed
SZW-list van mutagene stoffen: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting gifige stoffen – Borstvoeding: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting gifige stoffen – Vruchtbaarheid: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting gifige stoffen – Ontwikkeling: The substance is not listed

Denmark
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
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Abbreviations and acronyms:
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 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H361d | Suspected of damaging the unborn child. |

SDS EU (REACH Annex II) - Custom

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