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

1.1. Product identifier

Product form: Substance
Physical state: Liquid
Substance name: DI-n-BUTYLBIS(DODECYLTHIO)TIN, tech-95
Product code: SND2800
Formula: C32H68S2Sn
Synonyms: DIBUTYLTINDILAURYLMERCAPTIDE; DIBUTYLBIS(DODECYLTHIO)STANNANE
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 and industrial 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 - 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

GHS-US classification
Acute Tox. 3 (Oral) H301
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Full text of H statements: see section 16

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US): ☢️ ⚠️
Signal word (GHS-US): Danger
Hazard statements (GHS-US): 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
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 POISON CENTER
P302+P352 - If on skin: Wash with plenty of soap and water
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
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
P405 - Store locked up
P501 - Dispose of contents/container to licensed waste disposal facility

2.3. Other hazards

No additional information available
DI-n-BUTYLBIS(DODECYLTHIO)TIN, tech-95
Safety Data Sheet

2.4. Unknown acute toxicity (GHS US)
No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Multi-constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>DI-n-BUTYLBIS(DODECYLTHIO)TIN, tech-95</td>
</tr>
<tr>
<td>CAS No</td>
<td>1185-81-5</td>
</tr>
<tr>
<td>EC no</td>
<td>214-688-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-n-butylbis(dodecylthio)tin</td>
<td>(CAS No) 1185-81-5</td>
<td>95 - 100</td>
<td>Acute Tox. 3 (Oral), H301</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td>Other Organotins</td>
<td></td>
<td>0 - 5</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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.

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. Immediately call a poison center or doctor/physician.

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

Symptoms/injuries after inhalation: May cause irritation to the respiratory tract.

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.

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


Unsuitable extinguishing media: Do not use straight streams.

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: Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

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

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.

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.
Hygiene measures: Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep container tightly closed. Store locked up. Keep out of reach of children.
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>Other Organotins</th>
<th>USA ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
<th>USA OSHA</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-n-butylbis(dodecylthio)tin (1185-81-5)</td>
<td>USA ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³ as Tin</td>
<td></td>
<td>0.1 mg/m³ as tin</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: 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.
Skin and body protection: Wear suitable protective clothing.
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

<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>
<tr>
<td>Molecular mass</td>
<td>635.7 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Straw.</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic odor of sulfur compound.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.4992</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>160 °C @ 10 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 204 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>
DI-n-BUTYLBIS(DODECYLTHIO)TIN, tech-95
Safety Data Sheet

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<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>&lt; 0.1 mm Hg @ 25°C</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.045</td>
</tr>
<tr>
<td>VOC content</td>
<td>&lt; 5 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water. Reacts slowly with water.</td>
</tr>
<tr>
<td></td>
<td>Organic solvent: Soluble: toluene, heptane</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**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**

Reacts with moisture in air and water, slowly dodecylmercaptan and dibutyltin oxide. Direct sunlight causes slow degradation to an inorganic tin salt.

**10.4. Conditions to avoid**

Heat. Open flame. Sparks.

**10.5. Incompatible materials**


**10.6. Hazardous decomposition products**


**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity: Oral: Toxic if swallowed.

<table>
<thead>
<tr>
<th>Material</th>
<th>LD50 Oral Rat</th>
<th>LD50 Oral Rat (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-n-butylbis(1185-81-5)</td>
<td>136 mg/kg</td>
<td>136,000 mg/kg body weight</td>
</tr>
<tr>
<td>Di-n-butylbis(1185-81-5)</td>
<td>136 mg/kg</td>
<td>136,000 mg/kg body weight</td>
</tr>
</tbody>
</table>

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: May cause irritation to the respiratory tract.

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.
DI-n-BUTYLBIS(DODECYLTHIO)TIN, tech-95
Safety Data Sheet

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) : 2788
- DOT NA no. : UN2788

14.2. **UN proper shipping name**
- Proper Shipping Name (DOT) : Organotin compounds, liquid, n.o.s. (DI-n-BUTYLBIS(DODECYLTHIO)TIN)
- Hazard labels (DOT) : 6.1 - Poison

- Packing group (DOT) : III - Minor Danger
- DOT Packaging Exceptions (49 CFR 173.xxx) : 153
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
- DOT Packaging Bulk (49 CFR 173.xxx) : 241

14.3. **Additional information**
- Other information : No supplementary information available.

**Transport by sea**
- DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel
- DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”

**Air transport**
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

### SECTION 15: Regulatory information

15.1. **US Federal regulations**
Di-n-BUTYLBIS(DODECYLTHIO)TIN, tech-95
Safety Data Sheet

Di-n-butylbis(dodecylthio)tin (1185-81-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
Di-n-butylbis(dodecylthio)tin (1185-81-5)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IIECS (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on INSQ (Mexican national Inventory of Chemical Substances)

15.3. US State regulations
Di-n-BUTYLBI(S(DODECYLTHIO)TIN, tech-95(1185-81-5)
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
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

Non-significant risk level (NSRL)

Di-n-butylbis(dodecylthio)tin (1185-81-5)
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

Non-significant risk level (NSRL)

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:

H301 Toxic if swallowed
H315 Causes skin irritation
H319 Causes serious eye irritation

HMIS III Rating
Health 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability 1 Slight Hazard
Physical 1 Slight Hazard

Prepared by safety and environmental affairs.
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.