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-BUTYLDI-n-BUTOXYTIN, 95%
- Product code: SND3180
- Formula: C16H36O2Sn
- Synonyms: DIBUTYLTDIBUTOXIDE; DIBUTYLDIBUTOXYSTANNANE
- Chemical family: ORGANOTIN

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]
- Skin corrosion/irritation, Category 2: H315
- Serious eye damage/eye irritation, Category 2: H319

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal word (CLP): Warning

Hazard pictograms (CLP):

GHS07

Hazard statements (CLP):

- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.

Precautionary statements (CLP):

- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P264 - Wash hands thoroughly after handling.
DI-n-BUTYLDI-n-BUTOXYTIN, 95%
Safety Data Sheet

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type : Multi-constituent
Name : DI-n-BUTYLDI-n-BUTOXYTIN, 95%
CAS-No. : 3349-36-8
EC-No. : 222-103-1

<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>
</table>
| Di-n-butyldi-n-butoxytin | (CAS-No.) 3349-36-8 (EC-No.) 222-103-1 | > 95   | Skin Irrit. 2, H315
| Other Organotins      |                   | < 5    | Not classified                                                      |

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.
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

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:* Use only in well ventilated areas. 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. Do not eat, drink or smoke when using this product.

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

*Storage conditions:* Keep container tightly closed.


*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>Di-n-butyldi-n-butoxytin (3349-36-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
</tr>
<tr>
<td></td>
<td>0.1 mg/m³ (Tin)</td>
</tr>
</tbody>
</table>

#### Other Organotins

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

<table>
<thead>
<tr>
<th>USA OSHA</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>0.1 mg/m³ as 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:**

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

*Physical state:* Liquid
DI-n-BUTYLDI-n-BUTOXYTIN, 95%
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Appearance : Liquid.
Molecular mass : 397.15 g/mol
Colour : Pale yellow.
Odour : characteristic.
Odour threshold : No data available
Refractive index : 1.4721
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : < 0 °C
Boiling point : 136 - 138 °C @ 0.05 mm Hg
Flash point : 116 °C
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : < 0.1 mm Hg @ 25°C
Relative vapour density at 20 °C : > 1
Relative density : 1.122
Solubility : Insoluble in water. Reacts with 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. Reacts with moisture in air and water, slowly releasing butanol and dibutyltin oxide.

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

10.5. Incompatible materials

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
DI-n-BUTYLDI-n-BUTOXYTIN, 95%
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Potential adverse human health effects and symptoms:
- In animal studies with repeated oral administration, dibutyltin compounds have demonstrated toxic effects on the liver, bile duct, and immune system.

Symptoms/effects after inhalation:

Symptoms/effects after skin contact:
- Causes skin irritation.

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
- 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): 3082
- UN-No. (IMDG): 3082
- UN-No. (IATA): 3082
- UN-No. (ADN): 3082
- UN-No. (RID): 3082

14.2. UN proper shipping name
- Proper Shipping Name (ADR): ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Proper Shipping Name (IMDG): ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Proper Shipping Name (IATA): Environmentally hazardous substance, liquid, n.o.s.
- Proper Shipping Name (ADN): ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Proper Shipping Name (RID): ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Transport document description (ADR): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DI-n-BUTYLDI-n-BUTOXYTIN), 9, III, (E)
- Transport document description (IMDG): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DI-n-BUTYLDI-n-BUTOXYTIN), 9, III
- Transport document description (IATA): UN 3082 Environmentally hazardous substance, liquid, n.o.s. (DI-n-BUTYLDI-n-BUTOXYTIN), 9, III
- Transport document description (ADN): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DI-n-BUTYLDI-n-BUTOXYTIN), 9, III
- Transport document description (RID): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DI-n-BUTYLDI-n-BUTOXYTIN), 9, III

14.3. Transport hazard class(es)
- ADR: 9
## Safety Data Sheet

### DI-n-BUTYLDI-n-BUTOXYTIN, 95%

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
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<tbody>
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<tr>
<td><strong>IMDG</strong></td>
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<td>Danger labels (IMDG)</td>
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### 14.4. Packing group

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<th>Packing group (IATA)</th>
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### 14.5. Environmental hazards

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<tr>
<td>Dangerous for the environment</td>
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<tr>
<td>Marine pollutant</td>
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</tr>
<tr>
<td>Other information</td>
<td>No supplementary information available</td>
</tr>
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</table>
14.6. Special precautions for user

- Overland transport
  Classification code (ADR) : M6
  Special provisions (ADR) : 274, 335, 601
  Limited quantities (ADR) : 5l
  Excepted quantities (ADR) : E1
  Packing instructions (ADR) : P001, IBC03, LP01, R001
  Special packing provisions (ADR) : PP1
  Mixed packing provisions (ADR) : MP19
  Portable tank and bulk container instructions (ADR) : T4
  Portable tank and bulk container special provisions (ADR) : TP1, TP29
  Tank code (ADR) : LGBV
  Vehicle for tank carriage : AT
  Transport category (ADR) : 3
  Special provisions for carriage - Packages (ADR) : V12
  Special provisions for carriage - Loading, unloading and handling (ADR) : CV13
  Hazard identification number (Kemler No.) : 90
  Orange plates : 90
  Tunnel restriction code (ADR) : E
  EAC code : ·3Z

- Transport by sea
  Special provisions (IMDG) : 274, 335
  Limited quantities (IMDG) : 5L
  Excepted quantities (IMDG) : E1
  Packing instructions (IMDG) : P001, LP01
  Special packing provisions (IMDG) : PP1
  IBC packing instructions (IMDG) : IBC03
  Tank instructions (IMDG) : T4
  Tank special provisions (IMDG) : TP2, TP29
  EmS-No. (Fire) : F-A
  EmS-No. (Spillage) : S-F
  Stowage category (IMDG) : A

- Air transport
  PCA Excepted quantities (IATA) : E1
  PCA Limited quantities (IATA) : Y964
  PCA limited quantity max net quantity (IATA) : 30kgG
  PCA packing instructions (IATA) : 964
  PCA max net quantity (IATA) : 450L
  CAO packing instructions (IATA) : 964
  CAO max net quantity (IATA) : 450L
  Special provisions (IATA) : A97, A158
  ERG code (IATA) : 9L

- Inland waterway transport
  Classification code (ADN) : M6
  Special provisions (ADN) : 274, 335, 375, 601
  Limited quantities (ADN) : 5 L
  Excepted quantities (ADN) : E1
  Carriage permitted (ADN) : T
  Equipment required (ADN) : PP
  Number of blue cones/lights (ADN) : 0
### Rail transport
- **Classification code (RID):** M6
- **Special provisions (RID):** 274, 335, 375, 601
- **Limited quantities (RID):** 5L
- **Excepted quantities (RID):** E1
- **Packing instructions (RID):** P001, IBC03, LP01, R001
- **Special packing provisions (RID):** PP1
- **Mixed packing provisions (RID):** MP19
- **Portable tank and bulk container instructions (RID):** T4
- **Portable tank and bulk container special provisions (RID):** TP1, TP29
- **Tank codes for RID tanks (RID):** LGBV
- **Transport category (RID):** 3
- **Special provisions for carriage – Packages (RID):** W12
- **Special provisions for carriage - Loading, unloading and handling (RID):** CW13, CW31
- **Colis express (express parcels) (RID):** CE8
- **Hazard identification number (RID):** 90

### 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**
- **Di-n-BUTYLDI-n-BUTOXYTIN, 95% is not on the REACH Candidate List**
- **Di-n-BUTYLDI-n-BUTOXYTIN, 95% is not on the REACH Annex XIV List**
- **Di-n-BUTYLDI-n-BUTOXYTIN, 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.**

#### 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

### 15.2. Chemical safety assessment
No additional information available

### SECTION 16: Other information

Abbreviations and acronyms:
DI-n-BUTYLDI-n-BUTOXYTIN, 95%
Safety Data Sheet

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

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