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

1.1. Product identifier
Product form : Substance
Physical state : Solid
Substance name : DI-t-BUTYLDICHLOROTIN
Product code : SND3253
Formula : C₈H₁₈Cl₂Sn
Synonyms : DI-t-BUTYLTINDICHLORIDE; DI-t-BUTYLDICHLOROSTANNANE
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]
Acute toxicity (oral), Category 3 : H301
Acute toxicity (dermal), Category 3 : H311
Acute toxicity (inhalation:dust,mist) Category 3 : H331
Skin corrosion/irritation, Category 1B : H314
Serious eye damage/eye irritation, Category 1 : H318
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]
Hazard pictograms (CLP) : 

Signal word (CLP) : Danger
DI-t-BUTYLDICHLOROTIN
Safety Data Sheet

Hazard statements (CLP): H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled. H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP): P280 - Wear protective gloves/protective clothing/eye protection/face protection. P260 - Do not breathe dust, mist. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER. P271 - Use only outdoors or in a well-ventilated area.

SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type: Multi-constituent
Name: DI-t-BUTYLDICHLOROTIN
CAS-No.: 19429-30-2

<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>Di-t-butylchlorotin</td>
<td>(CAS-No.) 19429-30-2 (EC-No.) 243-051-6</td>
<td>95 - 100</td>
<td>Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318</td>
</tr>
<tr>
<td>Other Organotins</td>
<td></td>
<td>0 - 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. Immediately call a POISON CENTER/doctor.

First-aid measures after skin contact: Wash with plenty of water/.… Get immediate 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 immediate medical advice/attention.

First-aid measures after ingestion: Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/effects: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation: Toxic if inhaled. May cause irritation to the respiratory tract. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact: Toxic in contact with skin. Causes (severe) skin burns. Organotins may be absorbed through the skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact: Causes serious eye damage.
Symptoms/effects 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: None known.
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 contact with skin and eyes. Do not breathe dust.

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 product 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 contact with skin and eyes. Do not breathe dust. Avoid dust formation. Provide local exhaust or general room ventilation to minimize exposure to dust.

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.


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>Substances</th>
<th>ACGIH TWA (mg/m³)</th>
<th>USA OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-t-butyldichlorotin (19429-30-2)</td>
<td>0.1 mg/m³ as tin</td>
<td>0.1 mg/m³ as tin</td>
</tr>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA OSHA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other Organotins

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Solid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>303.83 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>White.</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>No additional information available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>42 - 43 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>66 °C @ 3 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>113 °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>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>&lt; 3 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</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>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive 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**
Direct sunlight causes degradation to an inorganic tin salt.

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

**10.5. Incompatible materials**
DI-t-BUTYLDICHLOROTIN
Safety Data Sheet

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

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity: Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-t-butyldichlorotin (19429-30-2)</td>
<td>ATE CLP (oral) 100 mg/kg bodyweight</td>
</tr>
<tr>
<td></td>
<td>ATE CLP (dermal) 300 mg/kg bodyweight</td>
</tr>
<tr>
<td></td>
<td>ATE CLP (dust,mist) 0.5 mg/l/4h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-t-butyldichlorotin (19429-30-2)</td>
<td>ATE CLP (oral) 100 mg/kg bodyweight</td>
</tr>
<tr>
<td></td>
<td>ATE CLP (dermal) 300 mg/kg bodyweight</td>
</tr>
<tr>
<td></td>
<td>ATE CLP (gases) 700 ppmv/4h</td>
</tr>
<tr>
<td></td>
<td>ATE CLP (vapours) 3 mg/l/4h</td>
</tr>
<tr>
<td></td>
<td>ATE CLP (dust,mist) 0.5 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/irritation: Causes serious eye damage.
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
Symptoms/effects after inhalation: Toxic if inhaled. May cause irritation to the respiratory tract. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact: Toxic in contact with skin. Causes (severe) skin burns. Organotins may be absorbed through the skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact: Causes serious eye damage.
Symptoms/effects after ingestion: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Reason for classification: Expert judgment

SECTION 12: Ecological information
12.1. Toxicity
Ecology - general: This material is toxic to wildlife and fish.
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
Sewage disposal recommendations: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
DI-t-BUTYLDICHLOROTIN
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Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
In accordance with ADR / RID / IMDG / IATA / ADN

| UN-No. (ADR) | : 2923 |
| UN-No. (IMDG) | : 2923 |
| UN-No. (IATA) | : 2923 |
| UN-No. (ADN) | : 2923 |
| UN-No. (RID) | : 2923 |

14.2. UN proper shipping name

| Proper Shipping Name (ADR) | : CORROSIVE SOLID, TOXIC, N.O.S. |
| Proper Shipping Name (IMDG) | : CORROSIVE SOLID, TOXIC, N.O.S. |
| Proper Shipping Name (IATA) | : Corrosive solid, toxic, n.o.s. |
| Proper Shipping Name (ADN) | : CORROSIVE SOLID, TOXIC, N.O.S. |
| Proper Shipping Name (RID) | : CORROSIVE SOLID, TOXIC, N.O.S. |

| Transport document description (ADR) | : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S. (DI-n-BUTYLDICHLOROTIN), 8 (6.1), II, (E) |
| Transport document description (IMDG) | : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S. (DI-n-BUTYLDICHLOROTIN), 8 (6.1), II |
| Transport document description (IATA) | : UN 2923 Corrosive solid, toxic, n.o.s. (DI-n-BUTYLDICHLOROTIN), 8 (6.1), II |
| Transport document description (ADN) | : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S. (DI-n-BUTYLDICHLOROTIN), 8 (6.1), II |
| Transport document description (RID) | : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S. (DI-n-BUTYLDICHLOROTIN), 8 (6.1), II |

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : 8 (6.1)
Danger labels (ADR) : 8, 6.1

IMDG
Transport hazard class(es) (IMDG) : 8 (6.1)
Danger labels (IMDG) : 8, 6.1

IATA
Transport hazard class(es) (IATA) : 8 (6.1)
Hazard labels (IATA) : 8, 6.1

ADN
Transport hazard class(es) (ADN) : 8 (6.1)
Danger labels (ADN) : 8, 6.1
RID
Transport hazard class(es) (RID) : 8 (6.1)
Danger labels (RID) : 8, 6.1

14.4. Packing group
Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

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
  Classification code (ADR) : CT2
  Special provisions (ADR) : 274
  Limited quantities (ADR) : 1 kg
  Excepted quantities (ADR) : E2
  Packing instructions (ADR) : P002, IBC08
  Special packing provisions (ADR) : B3
  Mixed packing provisions (ADR) : MP10
  Portable tank and bulk container instructions (ADR) : T3
  Portable tank and bulk container special provisions (ADR) : TP33
  Tank code (ADR) : SGAN, L4BN
  Vehicle for tank carriage : AT
  Transport category (ADR) : 2
  Special provisions for carriage - Packages (ADR) : V11
  Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28
  Hazard identification number (Kemler No.) : 86
  Orange plates : [Image]

  Tunnel restriction code (ADR) : E
  EAC code : 2X

- Transport by sea
  Special provisions (IMDG) : 274
  Limited quantities (IMDG) : 1 kg
  Excepted quantities (IMDG) : E2
  Packing instructions (IMDG) : P002
DI-t-BUTYLDICHLOROTIN
Safety Data Sheet

IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B2, B4
Tank instructions (IMDG) : T3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

- Air transport
PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y844
PCA limited quantity max net quantity (IATA) : 5kg
PCA packing instructions (IATA) : 859
PCA max net quantity (IATA) : 15kg
CAO packing instructions (IATA) : 863
CAO max net quantity (IATA) : 50kg
Special provisions (IATA) : A3
ERG code (IATA) : 8P

- Inland waterway transport
Classification code (ADN) : CT2
Special provisions (ADN) : 274, 802
Limited quantities (ADN) : 1 kg
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EP
Number of blue cones/ights (ADN) : 2

- Rail transport
Classification code (RID) : CT2
Special provisions (RID) : 274
Limited quantities (RID) : 1kg
Excepted quantities (RID) : E2
Packing instructions (RID) : P002, IBC08
Special packing provisions (RID) : B4
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T3
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAN, L4BN
Transport category (RID) : 2
Special provisions for carriage – Packages (RID) : W11
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28
Colis express (express parcels) (RID) : CE10
Hazard identification number (RID) : 86

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-t-BUTYLDICHLOROTIN is not on the REACH Candidate List
DI-t-BUTYLDICHLOROTIN is not on the REACH Annex XIV List
DI-t-BUTYLDICHLOROTIN
Safety Data Sheet


% Volatiles : < 3 %

15.1.2. National regulations

Germany

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

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

15.2. Chemical safety assessment
No additional information available

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 Ind 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: |
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhal.), Category 3 |
| Acute Tox. 3 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| H301 | Toxic if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H331 | Toxic if inhaled. |

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.

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