**SECTION 1: Identification**

1. **Identification**

   **Product name**: DI-t-BUTYLDICHLOROTIN  
   **Product code**: SND3253  
   **Product form**: Substance  
   **Physical state**: Solid  
   **Formula**: C8H18Cl2Sn  
   **Synonyms**: DI-t-BUTYLTINDICHLORIDE; DI-t-BUTYLDICHLOROSTANNANE  
   **Chemical family**: ORGANOTIN

1.2. **Recommended use and restrictions on use**

   **Recommended use**: Chemical intermediate  
   **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**

   **Acute toxicity (oral) Category 3**: H301 - Toxic if swallowed  
   **Acute toxicity (dermal) Category 3**: H311 - Toxic in contact with skin  
   **Acute toxicity (inhalation:dust,mist) Category 3**: H331 - Toxic if inhaled  
   **Skin corrosion/irritation Category 1B**: H314 - Causes severe skin burns and eye damage  
   **Serious eye damage/eye irritation Category 1**: H318 - Causes serious eye damage

   Full text of H statements : see section 16

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

   **GHS US labeling**

   **Hazard pictograms (GHS US)**:  
   ![Hazard pictogram]

   **Signal word (GHS US)**: Danger

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

   **Precautionary statements (GHS US)**:  
   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.  
   P271 - Use only outdoors or in a well-ventilated area.  
   P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
   P301+P310 - If swallowed: Immediately call a POISON CENTER  
   P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing, rinse skin with water/shower  
   P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
   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 POISON CENTER  
   P321 - Specific treatment (see first aid instructions on this label)  
   P361 - Take off immediately all contaminated clothing.  
   P363 - Wash contaminated clothing before reuse.  
   P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
   P405 - Store locked up.  
   P501 - Dispose of contents/container to licensed waste disposal facility.
DI-t-BUTYLDICHLOROTIN
Safety Data Sheet

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

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Name</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-constituent</td>
<td>DI-t-BUTYLDICHLOROTIN</td>
<td>19429-30-2</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-t-butyldichlorotin</td>
<td>(CAS-No.) 19429-30-2</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 hazard classes and H-statements : see section 16

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. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact: Wash with plenty of soap and 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 or doctor/physician.

4.2. Most important symptoms and effects (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. 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


Unsuitable extinguishing media: None known.

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: 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-t-butyldichlorotin</td>
<td>0.1 mg/m³ as tin</td>
<td>0.1 mg/m³ as tin</td>
</tr>
<tr>
<td>Other Organotins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH TWA (mg/m³)</td>
<td>0.1 mg/m³ as tin</td>
<td></td>
</tr>
<tr>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>0.1 mg/m³ as tin</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

- Appropriate engineering controls: Handle in an enclosing hood with exhaust 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 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

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>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>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
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<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
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</tr>
<tr>
<td>pH</td>
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<td>Relative evaporation rate (butyl acetate=1)</td>
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<tr>
<td>Melting point</td>
<td>42 - 43 °C</td>
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<tr>
<td>Freezing point</td>
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<tr>
<td>Boiling point</td>
<td>66 °C @ 3 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>113 °C</td>
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<tr>
<td>Auto-ignition temperature</td>
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</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
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<tr>
<td>Vapor pressure</td>
<td>No data available</td>
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<tr>
<td>Relative vapor density at 20 °C</td>
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</tr>
<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>% Volatiles</td>
<td>&lt; 3 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
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<tr>
<td>Log Pow</td>
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<tr>
<td>Log Kow</td>
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<tr>
<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
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<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
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</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

Direct sunlight causes degradation to an inorganic tin salt.

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

**DI-t-BUTYLDICHLOROTIN (19429-30-2)**

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (oral)</td>
<td>100 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>300 mg/kg body weight</td>
</tr>
</tbody>
</table>
DI-t-BUTYLDICHLOROTIN
Safety Data Sheet

**DI-t-BUTYLDICHLOROTIN (19429-30-2)**

| ATE US (dust, mist) | 0.5 mg/l/4h |

**DI-t-butyldichlorotin (19429-30-2)**

| ATE US (oral) | 100 mg/kg body weight |
| ATE US (dermal) | 300 mg/kg body weight |
| ATE US (gases) | 700 ppmV/4h |
| ATE US (vapors) | 3 mg/l/4h |
| ATE US (dust, mist) | 0.5 mg/l/4h |

- **Skin corrosion/irritation**: Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**: Causes serious eye damage.
- **Respiratory or skin sensitization**: Not classified
- **Germ cell mutagenicity**: Not classified
- **Reproductive toxicity**: Not classified
- **Specific target organ toxicity – single 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.

**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 the ozone layer: No additional information available

**SECTION 13: Disposal considerations**

**13.1. Disposal 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.

Ecology - waste materials: Avoid release to the environment.

**SECTION 14: Transport information**

**14.1. UN number**

UN-No.(DOT) : 2923
DOT NA no. UN2923

**14.2. UN proper shipping name**

Transport document description: UN2923 Corrosive solids, toxic, n.o.s. (DI-t-BUTYLDICHLOROTIN), 8 (6.1), II
DI-t-BUTYLDICHLOROTIN
Safety Data Sheet

Proper Shipping Name (DOT) : Corrosive solids, toxic, n.o.s. (DI-t-BUTYLDICHLOROTIN)
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : II - Medium Danger
Hazard labels (DOT) : 8 - Corrosive
                    : 6.1 - Poison

DOT Packaging Non Bulk (49 CFR 173.xxx) : 212
DOT Packaging Bulk (49 CFR 173.xxx) : 240
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Symbols : G - Identifies PSN requiring a technical name

14.3. Additional information
Emergency Response Guide (ERG) Number : 154
Other information : No supplementary information available.

Transport by sea
DOT Vessel Stowage Location : B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”

Air transport
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 15 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 50 kg

SECTION 15: Regulatory information

15.1. US Federal regulations
DI-t-BUTYLDICHLOROTIN (19429-30-2)

TSCA Exemption/Exclusion
CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

Di-t-butyl dichlorotin (19429-30-2)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
No additional information available

EU-Regulations
DI-t-butyl dichlorotin (19429-30-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations
No additional information available

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
SECTION 16: Other information

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H301</th>
<th>Toxic if swallowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>H311</td>
<td>Toxic in contact with skin</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H331</td>
<td>Toxic if inhaled</td>
</tr>
</tbody>
</table>

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: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

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 IIIb)

Physical: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

Date of issue: 04/13/2016  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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