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-n-BUTYLDICHLOROTIN
- **Product code**: SND3250
- **Formula**: C₈H₁₈Cl₂Sn
- **Synonyms**: DIBUTYLTINDICHLORIDE; DIBUTYLDICHLOROSTANNANE
- **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 4: H312
- Acute toxicity (inhalation:dust,mist) Category 2: H330
- Skin corrosion/irritation, Category 1B: H314
- Serious eye damage/eye irritation, Category 1: H318
- Germ cell mutagenicity, Category 2: H341
- Reproductive toxicity, Category 1B: H360
- Specific target organ toxicity — Repeated exposure, Category 1: H372
- Hazardous to the aquatic environment — Acute Hazard, Category 1: H400
- Hazardous to the aquatic environment — Chronic Hazard, Category 1: H410

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects

- No additional information available
2.2. Label elements

Hazard pictograms (CLP):

- GHS05
- GHS06
- GHS08
- GHS09

Signal word (CLP): Danger

Hazard statements (CLP):
- H301 - Toxic if swallowed.
- H312 - Harmful in contact with skin.
- H314 - Causes severe skin burns and eye damage.
- H330 - Fatal if inhaled.
- H341 - Suspected of causing genetic defects.
- H360 - May damage fertility or the unborn child.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP):
- P202 - Do not handle until all safety precautions have been read and understood.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P260 - Do not breathe dust.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P310 - Immediately call a POISON CENTER or doctor/physician.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type: Mono-constituent
Name: DI-n-BUTYLDICHLOROTIN
CAS-No.: 683-18-1
EC-No.: 211-670-0

<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-n-butylchlorotin</td>
<td>(CAS-No.) 683-18-1 (EC-No.) 211-670-0 (EC Index-No.) 050-022-00-X</td>
<td>95 - 100</td>
<td>Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1B, H314 Muta. 2, H341 Repr. 1B, H360FD STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Specific concentration limits:

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>Specific concentration limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI-n-butylchlorotin</td>
<td>(CAS-No.) 683-18-1 (EC-No.) 211-670-0 (EC Index-No.) 050-022-00-X</td>
<td>(0.01 =&lt;C &lt; 3) Eye Irrit. 2, H319 (0.01 =&lt;C &lt; 5) Skin Irrit. 2, H315 (3 =&lt;C &lt; 5) Eye Dam. 1, H318 (5 =&lt;C &lt; 100) Skin Corr. 1B, H314</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/…. Get immediate medical advice/attention.
DI-n-BUTYLDICHLOROTIN
Safety Data Sheet

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 of inhalation: May cause irritation to the respiratory tract.
Symptoms/effects of skin contact: Causes (severe) skin burns. Organotins may be absorbed through the skin.
Symptoms/effects of eye contact: Caused serious eye damage.
Symptoms/effects of 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

Avoid release to the environment. 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. Collect spillage.

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
DI-n-BUTYLDICHLOROTIN
Safety Data Sheet

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Di-n-butylchlorotin (683-18-1) | Italy - Portugal - USA ACGIH | ACGIH TWA (mg/m³) | 0.1 mg/m³ as tin |

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

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>Crystals</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>
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<tr>
<td>Refractive index</td>
<td>1.499</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>39 - 41 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>153 °C @ 5 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>168 °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>10 mm Hg @ 134°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.36 @ 50°C</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Organic solvent</td>
<td>Soluble: hexane, ether, THF</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

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. Harmful in contact with skin. Fatal if inhaled.

**Di-n-BUTYLDICHLOROTIN (683-18-1)**

<table>
<thead>
<tr>
<th>Exposure Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE CLP (oral)</td>
<td>100 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>1100 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE CLP (dust,mist)</td>
<td>0.05 mg/l/4h</td>
</tr>
</tbody>
</table>

**Di-n-butylchlorotin (683-18-1)**

<table>
<thead>
<tr>
<th>Exposure Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>112 - 219 mg/kg</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
- Causes severe skin burns and eye damage.
  - Skin Irritation - rabbit: 2 mg/24H: severe irritation effect

**Serious eye damage/irritation**
- Causes serious eye damage.
  - Eye Irritation - rabbit: 50 µg/24H: severe irritation effect

**Respiratory or skin sensitisation**
- Not classified

**Germ cell mutagenicity**
- Not classified

**Carcinogenicity**
- Not classified

**Reproductive toxicity**
- May damage fertility or the unborn child.

**STOT-single exposure**
- Not classified

**STOT-repeated exposure**
- Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**
- Not classified

**Symptoms/effects after inhalation**
- May cause irritation to the respiratory tract.

**Symptoms/effects after skin contact**
- Causes (severe) skin burns. Organotins may be absorbed through the skin.

**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**
- Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

**Acute aquatic toxicity**
- Very toxic to aquatic life.

**Chronic aquatic toxicity**
- Very toxic to aquatic life with long lasting effects.

**Di-n-butylchlorotin (683-18-1)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>0.55 mg/l (Exposure time: 48 h - Species: Daphnia magna)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential

**Di-n-butylchlorotin (683-18-1)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>0.13 - 10</td>
</tr>
</tbody>
</table>
**DI-n-BUTYLDICHLOROTIN**

**Safety Data Sheet**

**12.4. Mobility in soil**
No additional information available

**12.5. Results of PBT and vPvB assessment**

**DI-n-BUTYLDICHLOROTIN (683-18-1)**

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

<table>
<thead>
<tr>
<th>Component</th>
<th>DI-n-butyldichlorotin (683-18-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</td>
</tr>
<tr>
<td></td>
<td>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII</td>
</tr>
</tbody>
</table>

**12.6. Other adverse effects**
No additional information available

**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.
Ecology - waste materials: Avoid release to the environment.

**SECTION 14: Transport information**

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

<table>
<thead>
<tr>
<th>14.1. UN number</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No. (ADR)    : 3146</td>
</tr>
<tr>
<td>UN-No. (IMDG)   : 3146</td>
</tr>
<tr>
<td>UN-No. (IATA)   : 3146</td>
</tr>
<tr>
<td>UN-No. (ADN)    : 3146</td>
</tr>
<tr>
<td>UN-No. (RID)    : 3146</td>
</tr>
</tbody>
</table>

**14.2. UN proper shipping name**

| Proper Shipping Name (ADR)     | ORGANOTIN COMPOUND, SOLID, N.O.S. |
| Proper Shipping Name (IMDG)    | ORGANOTIN COMPOUND, SOLID, N.O.S. |
| Proper Shipping Name (IATA)    | Organotin compound, solid, n.o.s. |
| Proper Shipping Name (ADN)     | ORGANOTIN COMPOUND, SOLID, N.O.S. |
| Proper Shipping Name (RID)     | ORGANOTIN COMPOUND, SOLID, N.O.S. |
| Transport document description (ADR) | UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DI-n-BUTYLDICHLOROTIN), 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IMDG) | UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DI-n-BUTYLDICHLOROTIN), 6.1, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IATA) | UN 3146 Organotin compound, solid, n.o.s. (DI-n-BUTYLDICHLOROTIN), 6.1, III, ENVIRONMENTALLY HAZARDOUS |
| Transport document description (ADN) | UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DI-n-BUTYLDICHLOROTIN), 6.1, III, ENVIRONMENTALLY HAZARDOUS |
| Transport document description (RID) | UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DI-n-BUTYLDICHLOROTIN), 6.1, III, ENVIRONMENTALLY HAZARDOUS |

**14.3. Transport hazard class(es)**

**ADR**

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

**IMDG**

Transport hazard class(es) (IMDG) : 6.1
Danger labels (IMDG) : 6.1
DI-n-BUTYLDICHLOROTIN
Safety Data Sheet

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

ADN
Transport hazard class(es) (ADN) : 6.1
Danger labels (ADN) : 6.1

RID
Transport hazard class(es) (RID) : 6.1
Danger labels (RID) : 6.1

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

14.5. Environmental hazards
Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
  Classification code (ADR) : T3
  Special provisions (ADR) : 43, 274
  Limited quantities (ADR) : 5kg
  Excepted quantities (ADR) : E1
  Packing instructions (ADR) : P002, IBC08, LP02, R001
  Mixed packing provisions (ADR) : MP10
  Portable tank and bulk container instructions (ADR) : T1
  Portable tank and bulk container special provisions (ADR) : TP33
  Tank code (ADR) : SGAH, L4BH
DI-n-BUTYLDICHLOROTIN
Safety Data Sheet

Tank special provisions (ADR) : TU15, TE19
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28
Special provisions for carriage - Operation (ADR) : S9
Hazard identification number (Kemler No.) : 60
Orange plates :

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

- Transport by sea
Special provisions (IMDG) : 43, 223, 274
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-A
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : A wide variety of toxic solids. Toxic if swallowed, by skin contact or by inhalation.

- Air transport
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y645
PCA limited quantity max net quantity (IATA) : 10kg
PCA packing instructions (IATA) : 670
PCA max net quantity (IATA) : 100kg
CAO packing instructions (IATA) : 677
CAO max net quantity (IATA) : 200kg
Special provisions (IATA) : A3, A4, A6
ERG code (IATA) : 6L

- Inland waterway transport
Classification code (ADN) : T3
Special provisions (ADN) : 43, 274, 802
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

- Rail transport
Classification code (RID) : T3
Special provisions (RID) : 43, 274
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, LP02, R001
Special packing provisions (RID) : B3
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1
DI-n-BUTYLDICHLOROTIN
Safety Data Sheet

Portable tank and bulk container special provisions (RID): TP33
Tank codes for RID tanks (RID): SGAH, L4BH
Special provisions for RID tanks (RID): TU15
Transport category (RID): 2
Special provisions for carriage – Bulk (RID): VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (RID): CW13, CW28, CW31
Colis express (express parcels) (RID): CE11
Hazard identification number (RID): 60

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
Dibutyltin dichloride (DBTC) is on the REACH Candidate List
Contains a substance on the REACH candidate list in concentration ≥ 0.1% or with a lower specific limit: Dibutyltin dichloride (DBTC) (EC 211-670-0, CAS 683-18-1)
DI-n-BUTYLDICHLOROTIN is not on the REACH Annex XIV List
Dibutyltin compounds is 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-eliminatielijst van voor de voortplanting giftige stoffen – Borstvoeding: The substance is not listed
NIET-eliminatielijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: DI-n-BUTYLDICHLOROTIN is listed
NIET-eliminatielijst van voor de voortplanting giftige stoffen – Ontwikkeling: DI-n-BUTYLDICHLOROTIN is 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:

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:

<table>
<thead>
<tr>
<th>Acute Tox. 2 (Inhalation)</th>
<th>Acute toxicity (inhal.), Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 2 (Inhalation:dust,mist)</td>
<td>Acute toxicity (inhalation:dust,mist) Category 2</td>
</tr>
<tr>
<td>Acute Tox. 3 (Oral)</td>
<td>Acute toxicity (oral), Category 3</td>
</tr>
<tr>
<td>Acute Tox. 4 (Dermal)</td>
<td>Acute toxicity (dermal), Category 4</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 1</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Muta. 2</td>
<td>Germ cell mutagenicity, Category 2</td>
</tr>
<tr>
<td>Repr. 1B</td>
<td>Reproductive toxicity, Category 1B</td>
</tr>
<tr>
<td>Repr. 1B</td>
<td>Reproductive toxicity, Category 1B</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation, Category 1B</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT RE 1</td>
<td>Specific target organ toxicity — Repeated exposure, Category 1</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed.</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H330</td>
<td>Fatal if inhaled.</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child.</td>
</tr>
<tr>
<td>H360FD</td>
<td>May damage fertility, May damage the unborn child.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

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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