SECTION 1: Identification

1.1. Identification
Product name: TRI-n-PROPYLCHLOROTIN
Product code: SNT8708
Product form: Substance
Physical state: Liquid
Formula: C₉H₂₁ClSn
Synonyms: TRIPROPYLTINCHLORIDE; CHLOROTRIPROPYLSTANNANE; TRIPROPYLSTANNIUM CHLORIDE
Chemical family: ORGANOTIN

1.2. Recommended use and restrictions on use
Recommended use: Chemical intermediate

1.3. 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
GHS-US classification
Acute toxicity (oral) Category 3 H301 Toxic if swallowed
Skin corrosion/irritation Category 2 H315 Causes skin irritation
Serious eye damage/eye irritation Category 2A H319 Causes serious eye irritation

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements
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.
P300 - Rinse mouth.
P301+P310 - If swallowed: Immediately call a doctor
P302+P352 - If on skin: Wash with plenty of 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. Hazards not otherwise classified (HNOC)
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable
TRI-n-PROPYLCHLOROTIN
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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>Mono-constituent</td>
<td>TRI-n-PROPYLCHLOROTIN</td>
<td>2279-76-7</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>TRI-n-propylchlorotin (CAS-No. 2279-76-7)</td>
<td>95 - 100</td>
<td>Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319</td>
<td></td>
</tr>
</tbody>
</table>

Full text of hazard classes and 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 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. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation: May cause irritation to the respiratory tract. The related compound, triethylchlorotin, has been reported to cause cerebral edema as a result of inhalation.

Symptoms/effects after skin contact: Causes skin irritation. Organotins may be absorbed through the skin. The related compound, triethylchlorotin, has been reported to cause cerebral edema as a result of skin contact.

Symptoms/effects after eye contact: Causes serious eye irritation.

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: Water.

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.

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. Use only in well ventilated areas.

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. Keep out of reach of children. Store locked up.

Incompatible materials: Direct sunlight. Oxidizing agent.

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>Tri-n-propylchlorotin (2279-76-7)</th>
<th>ACGIH TWA (mg/m³)</th>
<th>0.1 mg/m³ as tin</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH STEL (mg/m³)</td>
<td>0.2 mg/m³ as tin (skin)</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>0.1 mg/m³ as tin</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. 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>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>283.41 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Pale yellow.</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>No data available</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>-23 °C</td>
</tr>
</tbody>
</table>
Tri-n-Propylchlorotin (2279-76-7)

**Freezing point**: No data available

**Boiling point**: 123 °C @ 13 mm Hg

**Flash point**: > 110 °C

**Auto-ignition temperature**: No data available

**Decomposition temperature**: No data available

**Flammability (solid, gas)**: No data available

**Vapor pressure**: < 1 mm Hg @ 60°C

**Relative vapor density at 20 °C**: > 1

**Relative density**: 1.268

**Solubility**: Insoluble in 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

**Oxidizing properties**: No data available

**Explosion 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.

**10.4. Conditions to avoid**

Heat. Open flame. Sparks.

**10.5. Incompatible materials**

Direct sunlight. Oxidizing agent.

**10.6. Hazardous decomposition products**

Organic acid vapors. Tin oxides.

### SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Acute toxicity**: Not classified

**LD50 oral rat**: ~ 100 mg/kg estimated from other tripropyltin compounds

**LD50 oral mouse**: 4 mg/kg

**ATE US (oral)**: 100 mg/kg body weight

**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/effects after inhalation**: May cause irritation to the respiratory tract. The related compound, triethylchlorotin, has been reported to cause cerebral edema as a result of inhalation.

**Symptoms/effects after skin contact**: Causes skin irritation. Organotins may be absorbed through the skin. The related compound, triethylchlorotin, has been reported to cause cerebral edema as a result of skin contact.
TRI-n-PROPYLCHLOROTIN
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Symptoms/effects after eye contact: Causes serious eye irritation.
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 acutely toxic to aquatic life if released to open waters. 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
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): 2788
DOT NA no.: UN2788

14.2. UN proper shipping name
Transport document description: UN2788 Organotin compounds, liquid, n.o.s. (TRI-n-PROPYLCHLOROTIN), 6.1, II
Proper Shipping Name (DOT): Organotin compounds, liquid, n.o.s. (TRI-n-PROPYLCHLOROTIN)
Packing group (DOT): II - Medium Danger
Hazard labels (DOT): 6.1 - Poison

Marine pollutant: Yes (IMDG only)

DOT Packaging Non Bulk (49 CFR 173.xxx): 202
DOT Packaging Bulk (49 CFR 173.xxx): 243
DOT Packaging Exceptions (49 CFR 173.xxx): 153

14.3. Additional information
Emergency Response Guide (ERG) Number: 153
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.
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DOT Vessel Stowage Other: 40 - Stow “clear of living quarters”

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

SECTION 15: Regulatory information

15.1. US Federal regulations

TRI-n-PROPYLCHLOROTIN (2279-76-7)

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.

Tri-n-propylchlorotin (2279-76-7)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
No additional information available

EU-Regulations

Tri-n-propylchlorotin (2279-76-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Tri-n-propylchlorotin (2279-76-7)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

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:

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

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: °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: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

Flammability: 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

Physical: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
TRI-n-PROPYLCHLOROTIN
Safety Data Sheet

Prepared by safety and environmental affairs.
Date of issue: 11/18/2015    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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