SECTION 1: Identification

1.1. Identification

Product name: TRIPHENYLIODOTIN, 95%
Product code: SNT8683
Product form: Substance
Physical state: Solid
Formula: C18H15ISn
Synonyms: TRIPHENYL Tin IODIDE
TRIPHENYLIODOSTANNANE
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 1: H318 - Causes serious eye damage
Hazardous to the aquatic environment - Acute Hazard Category 1: H400 - Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1: H410 - Very toxic to aquatic life with long lasting effects

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Signal word (GHS US): Danger

Hazard pictograms (GHS US): 

Hazard statements (GHS US): H301 - Toxic if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

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.
P273 - Avoid release to the environment.
P303+P310 - If swallowed: Immediately call a POISON CENTER.
P302+P352 - If on skin: Wash with plenty of soap and 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.
P310 - Immediately call a POISON CENTER.
P321 - Specific treatment (see first aid instructions on this label).
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to licensed waste disposal facility.
TRIPHENYLIODOTIN, 95%
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>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triphenyliodotin</td>
<td>(CAS-No.) 894-09-7</td>
<td>95 - 100</td>
<td>Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
<tr>
<td>Other Organotins</td>
<td>0 - 5</td>
<td></td>
<td>Not classified</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 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 after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes skin irritation. 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.

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: Do not use straight streams.

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

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. 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Organotins</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>0.1 mg/m³ as tin</td>
<td>0.1 mg/m³ as tin</td>
</tr>
<tr>
<td>OSHA</td>
<td>0.1 mg/m³ as tin</td>
<td>0.1 mg/m³ as tin</td>
</tr>
<tr>
<td>Triphenyliodotin (894-09-7)</td>
<td>0.1 mg/m³ as tin</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

Physical state: Solid
Appearance: Powder.
TRIPHENYLIODOTIN, 95%
Safety Data Sheet

Molecular mass : 476.9 g/mol
Color : Off-white.
Odor : No data available
Odor threshold : No data available
Refractive index : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : 117 - 121 °C
Freezing point : No data available
Boiling point : 250 - 253 °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 : < 0.1 mm Hg @ 25°C
Relative vapor density at 20 °C : No data available
Relative density : > 1
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
No additional information available

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

10.5. Incompatible materials
Acids. Oxidizing agent.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified

<table>
<thead>
<tr>
<th>Component</th>
<th>Route of Exposure</th>
<th>Toxicity Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIPHENYLIODOTIN, 95% (894-09-7)</td>
<td>ATE US (oral)</td>
<td>118 mg/kg body weight</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Route of Exposure</th>
<th>Toxicity Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triphenyliodotin (894-09-7)</td>
<td>LD50 oral rat</td>
<td>118 - 135 mg/kg (triphenylchlorotin)</td>
</tr>
<tr>
<td></td>
<td>LD50 intravenous mouse</td>
<td>56 mg/kg</td>
</tr>
<tr>
<td></td>
<td>ATE US (oral)</td>
<td>118 mg/kg body weight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Eye Irritation: Corrosive
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity: Not classified

Atrophy and degeneration of the testes were reported in young rats fed analogous triphenylchlorotin in the diet for 19-20 days at concentrations equivalent to 20 and 40 mg/kg, while degenerative changes in the ovaries were reported in sexually mature female rats after 5 days or oral administration of 20 mg/kg. Administration of triphenylchlorotin to rats for 2 weeks caused evidence of immunosuppression at 15 ppm and above, reduced bodyweight growth and spleen changes. Triphenylchlorotin has been reported to cause gene mutations in bacteria and chromosome damage in in vitro assays of human white blood cells.

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.

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

Ecology - water: This material is toxic to wildlife and fish. For the analogous compound triphenylchlorotin: LC50 values for freshwater invertebrate, mollusc and fish species are in the range of 50-200 ppb. The EC50 values for algal growth in several species is in the range of 1-40 ppb. A half-life of 160 days for biodegradation in soil has been measured for the analogous compound triphenylacetotin.

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): 3146

DOT NA no.: UN3146

14.2. UN proper shipping name

Transport document description: UN3146 Organotin compounds, solid, n.o.s. (TRIPHENYLIODOTIN), 6.1, III

Proper Shipping Name (DOT): Organotin compounds, solid, n.o.s. (TRIPHENYLIODOTIN)


Packing group (DOT): III - Minor Danger
TRIPHENYLIODOTIN, 95%
Safety Data Sheet

Hazard labels (DOT) : 6.1 - Poison

Dangerous for the environment : Yes
Marine pollutant : Yes

DOT Packaging Non Bulk (49 CFR 173.xxx) : 213
DOT Packaging Bulk (49 CFR 173.xxx) : 240
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.
DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”

Air transport
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 100 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 200 kg

SECTION 15: Regulatory information

15.1. US Federal regulations
TRIPHENYLIODOTIN, 95% (894-09-7)

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.

Triphenylidotin (894-09-7)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
CANADA
No additional information available

EU-Regulations
No additional information available

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:

H301 Toxic if swallowed
TRIPHENYLIODOTIN, 95%
Safety Data Sheet

H315 Causes skin irritation
H318 Causes serious eye damage
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Abbreviations and acronyms:
- Abbreviations: ND: Not Determined; 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 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: 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.

Prepared by safety and environmental affairs.

Date of issue: 09/12/2016 Version: 1.0

SDS US (GHS HazCom 2012) - Custom
According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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.

© 2019 Gelest Inc. Morrisville, PA 19067