# TRIPHENYLHYDROXYTIN, tech-90

Safety Data Sheet SNT8680

Date of issue: 09/14/2015 Version: 1.0

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

### 1.1. Product identifier

| | | |
|---|---|---|
| Product form | : | Substance |
| Physical state | : | Solid |
| Substance name | : | TRIPHENYLHYDROXYTIN, tech-90 |
| Product code | : | SNT8680 |
| Formula | : | C18H16OSn |
| Synonyms | : | FENTIN HYDROXIDE; TRIPHENYLHYDROXYSTANNANE; TRIPHENYLTIN HYDROXIDE |
| Chemical family | : | ORGANOTIN |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| | | |
|---|---|---|
| Use of the substance/mixture | : | Chemical intermediate<br>For research and industrial use only |

### 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

### 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 (GHS-US)**

| | |
|---|---|
| Acute Tox. 3 (Oral) | H301 |
| Acute Tox. 2 (Dermal) | H310 |
| Acute Tox. 2 (Inhalation:dust,mist) | H330 |
| Skin Irrit. 2 | H315 |
| Eye Dam. 1 | H318 |
| Carc. 2 | H351 |
| Repr. 2 | H361 |
| STOT SE 3 | H335 |
| STOT RE 1 | H372 |
| Aquatic Acute 1 | H400 |

Full text of H-phrases: see section 16

### 2.2. Label elements

**GHS-US labeling**

Hazard pictograms (GHS-US) :

GHS05 GHS06 GHS07 GHS08 GHS09

| | | |
|---|---|---|
| Signal word (GHS-US) | : | Danger |
| Hazard statements (GHS-US) | : | H301 - Toxic if swallowed<br>H310+H330 - Fatal in contact with skin or if inhaled<br>H315 - Causes skin irritation<br>H318 - Causes serious eye damage<br>H335 - May cause respiratory irritation<br>H351 - Suspected of causing cancer<br>H361 - Suspected of damaging fertility or the unborn child<br>H372 - Causes damage to organs through prolonged or repeated exposure<br>H400 - Very toxic to aquatic life |
| Precautionary statements (GHS-US) | : | P201 - Obtain special instructions before use<br>P202 - Do not handle until all safety precautions have been read and understood<br>P280 - Wear protective gloves/protective clothing/eye protection/face protection<br>P260 - Do not breathe dust<br>P262 - Do not get in eyes, on skin, or on clothing |

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
P273 - Avoid release to the environment
P284 - In case of inadequate ventilation wear respiratory protection
P301+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
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
P308+P313 - If exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER
P320 - Specific treatment is urgent (see first aid instructions on this label)
P330 - Rinse mouth
P362+P364 - Take off contaminated clothing and wash it before reuse
P363 - Wash contaminated clothing before reuse
P391 - Collect spillage
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.

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Substance type : Multi-constituent
Name : TRIPHENYLHYDROXYTIN, tech-90
CAS No : 76-87-9
EC no : 200-990-6

| Name | Product identifier | % | Classification (GHS-US) |
|---|---|---|---|
| Triphenyltin hydroxide | (CAS No) 76-87-9 | 95 - 100 | Acute Tox. 3 (Oral), H301<br>Acute Tox. 2 (Dermal), H310<br>Acute Tox. 2 (Inhalation:dust,mist), H330<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Carc. 2, H351<br>Repr. 2, H361<br>STOT SE 3, H335<br>STOT RE 1, H372<br>Aquatic Acute 1, H400 |
| Other Organotins | | 0 - 5 | Not classified |

### 3.2. Mixture

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. Call a POISON CENTER or doctor/physician.

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 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, both acute and delayed

Symptoms/injuries : Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Symptoms/injuries after inhalation : Fatal if inhaled. May cause respiratory irritation.

Symptoms/injuries after skin contact : Fatal in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Causes skin irritation. Organotins may be absorbed through the skin.

| | | |
|---|---|---|
| Symptoms/injuries after eye contact | : | Causes serious eye damage. |
| Symptoms/injuries 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

| | | |
|---|---|---|
| Suitable extinguishing media | : | Water spray. Foam. Carbon dioxide. Dry chemical. |
| Unsuitable extinguishing media | : | Do not use straight streams. |

### 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 | : | Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire. |
| 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 | : | Collect spillage. 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 | : | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Use only outdoors or in a well-ventilated area. |
| Hygiene measures | : | Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. |

### 7.2. Conditions for safe storage, including any incompatibilities

| | | |
|---|---|---|
| Storage conditions | : | Keep container tightly closed. Store locked up. |
| Incompatible materials | : | Acids. Oxidizing agent. |
| 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

| **Other Organotins** | | |
|---|---|---|
| USA ACGIH | ACGIH TWA (mg/m³) | 0.1 mg/m³ (Tin) |

| **Triphenyltin hydroxide (76-87-9)** | | |
|---|---|---|
| USA ACGIH | ACGIH TWA (mg/m³) | 0.1 mg/m³ as tin |

| Triphenyltin hydroxide (76-87-9) | | |
|---|---|---|
| USA OSHA | OSHA PEL (TWA) (mg/m³) | 0.1 mg/m³ as tin |

### 8.2. Exposure controls

| | | |
|---|---|---|
| Appropriate engineering controls | : | Provide local exhaust or general room ventilation. Handle in an enclosing hood with exhaust ventilation. Insure that exhaust is vented properly- caustic scrubbing is recommended. |
| 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 | : | In case of inadequate ventilation wear respiratory protection. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator. |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Solid |
| Appearance | : | Powder. |
| Molecular mass | : | 367.02 g/mol |
| Color | : | 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 | : | 128 °C |
| Freezing point | : | No data available |
| Boiling point | : | No data available |
| Flash point | : | > 110 °C |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Vapor pressure | : | 25 mm Hg @ 170°C |
| Relative vapor density at 20 °C | : | No data available |
| Relative density | : | 1.186 |
| VOC content | : | < 3 % |
| 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

None known.

### 10.5. Incompatible materials

Acids. Oxidizing agent.

### 10.6. Hazardous decomposition products

Organic acid vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Fatal in contact with skin. Inhalation:dust,mist: Fatal if inhaled.

| TRIPHENYLHYDROXYTIN, tech-90 (76-87-9) | |
|---|---|
| ATE US (oral) | 156.000 mg/kg body weight |
| ATE US (dermal) | 127.000 mg/kg body weight |
| ATE US (dust, mist) | 0.060 mg/l/4h |

| Triphenyltin hydroxide (76-87-9) | |
|---|---|
| LD50 oral rat | 156 mg/kg ; 171-268 mg/kg |
| LD50 dermal rabbit | 127 mg/kg |
| LC50 inhalation rat (mg/l) | 0.06 mg/l/4h |
| ATE US (oral) | 156.000 mg/kg body weight |
| ATE US (dermal) | 127.000 mg/kg body weight |
| ATE US (vapors) | 0.060 mg/l/4h |
| ATE US (dust, mist) | 0.060 mg/l/4h |

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified
Mutagenic data has been reported.

Carcinogenicity : Suspected of causing cancer.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.
Triphenyltin hydroxide is an experimental teratogen.

Specific target organ toxicity (single exposure) : May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Fatal if inhaled. May cause respiratory irritation.

Symptoms/injuries after skin contact : Fatal in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Causes skin irritation. Organotins may be absorbed through the skin.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life.

| Triphenyltin hydroxide (76-87-9) | |
|---|---|
| LC50 fish 1 | 0.007 mg/l Pimephales promelas (fathead minnow) |
| EC50 Daphnia 1 | 0.0087 mg/l Daphnia magna (Water flea) |
| ErC50 (algae) | 0.0017 mg/l Skeletonema costatum |

### 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 ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Waste disposal recommendations : Dispose of solid materials or residues at a licensed site. 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

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

Department of Transportation (DOT) Hazard Classes : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132

Hazard labels (DOT) : 6.1 - Poison

Packing group (DOT) : II - Medium Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : 153

DOT Packaging Non Bulk (49 CFR 173.xxx) : 212

DOT Packaging Bulk (49 CFR 173.xxx) : 242

### 14.3. Additional information

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) : 25 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| Triphenyltin hydroxide (76-87-9) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory<br>Listed on United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1.0 % |

### 15.2. International regulations

| Triphenyltin hydroxide (76-87-9) |
|---|
| Listed on the AICS (Australian Inventory of Chemical Substances)<br>Listed on the Canadian NDSL (Non-Domestic Substances List)<br>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)<br>Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory<br>Listed on the Japanese ISHL (Industrial Safety and Health Law)<br>Listed on the Korean ECL (Existing Chemicals List)<br>Listed on NZIoC (New Zealand Inventory of Chemicals)<br>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)<br>Japanese Poisonous and Deleterious Substances Control Law<br>Japanese Pollutant Release and Transfer Register Law (PRTR Law)<br>Listed on the Canadian IDL (Ingredient Disclosure List) |

### 15.3. US State regulations

| TRIPHENYLHYDROXYTIN, tech-90(76-87-9) | |
|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | No |
| U.S. - California - Proposition 65 - Developmental Toxicity | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No |

| Other Organotins | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
| No | No | No | No | |

| Triphenyltin hydroxide (76-87-9) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
| Yes | Yes | No | No | |

## 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.: Chemcial 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.

Full text of H-phrases::

| | |
|---|---|
| Acute Tox. 2 (Dermal) | Acute toxicity (dermal) Category 2 |
| Acute Tox. 2 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 2 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral) Category 3 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Carc. 2 | Carcinogenicity Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Repr. 2 | Reproductive toxicity Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT RE 1 | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H301 | Toxic if swallowed |
| H310 | Fatal in contact with skin |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H330 | Fatal if inhaled |
| H335 | May cause respiratory irritation |
| H351 | Suspected of causing cancer |
| H361 | Suspected of damaging fertility or the unborn child |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |

### HMIS III Rating

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

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

Prepared by safety and environmental affairs.

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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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