**SECTION 1: Identification**

1.1. Identification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>HEXAMETHYLDITIN</td>
</tr>
<tr>
<td>Product code</td>
<td>SNH6120</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOTIN</td>
</tr>
</tbody>
</table>

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 2: H300 - Fatal if swallowed
- Acute toxicity (dermal) Category 2: H310 - Fatal in contact with skin

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): H300+H310 - Fatal if swallowed or in contact with skin
  - Precautionary statements (GHS US):
    - P280: Wear protective gloves/protective clothing/eye protection/face protection.
    - 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.
    - P330: Rinse mouth.
    - P301+P310: If swallowed: Immediately call a POISON CENTER
    - 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.
    - 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

**SECTION 3: Composition/Information on ingredients**

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>HEXAMETHYLDITIN</td>
</tr>
</tbody>
</table>
### 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. Get medical advice/attention.

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

**Symptoms/effects after inhalation**
At low levels exposure to the related compound, trimethylchlorotin, may produce coughing, headache and nausea. At higher levels trimethylchlorotin has been reported to cause cerebral edema. Human fatalities have been reported from exposure to trimethylchlorotin vapors. Laboratory animal studies have demonstrated neurotoxicity, decreases in oxidative phosphorylation associated with mitochondrial binding and inhibition of ATPase. May cause irritation to the respiratory tract.

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

**Symptoms/effects after eye contact**
May cause eye irritation.

**Symptoms/effects after ingestion**
Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

**Chronic symptoms**
The related compound, trimethylchlorotin, is a cumulative toxin. Symptomatic manifestations can follow exposure up to five days. Reported symptoms include memory loss, exhibition of rage and anger, and reduction of sexual function.

#### 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

**Suitable 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**
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 all eye and skin contact and do not breathe vapor and mist.

**Other information**
Extremely toxic. Self-contained breathing apparatus should be worn at all times to avoid inhalation.

### 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 all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Use only in well ventilated areas.

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 in sealed containers in a manner consistent with safe-handling and regulatory requirements for a hazardous substance. Store locked up.

Incompatible materials: Oxidizing agent. Direct sunlight.

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>Other Organotins</th>
<th>ACGIH TWA (mg/m³)</th>
<th>ACGIH STEL (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>0.2 mg/m³ as tin</td>
<td></td>
</tr>
<tr>
<td>Hexamethyldistannane (661-69-8)</td>
<td>ACGIH TWA (mg/m³)</td>
<td>0.1 mg/m³ as tin</td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering 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.

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**: Crystalline solid or clear liquid.

**Molecular mass**: 327.59 g/mol

**Color**: White.

**Odor**: Characteristic.

**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**: 23 - 24 °C

**Freezing point**: No data available

**Boiling point**: 85 - 88 °C @ 45 mm Hg

**Flash point**: 61 °C

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

**Decomposition temperature**: No data available

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

**Vapor pressure**: No data available

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

**Relative density**: 1.57

**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

### 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**

None known.

10.5. **Incompatible materials**

Oxidizing agent. Direct sunlight.

10.6. **Hazardous decomposition products**

Organic acid vapors. Tin oxides.

### SECTION 11: Toxicological information

11.1. **Information on toxicological effects**

**Acute toxicity**: Not classified

**ATE US** (661-69-8)

- **ATE US (oral)**: 7.69 mg/kg body weight
- **ATE US (dermal)**: 53.8 mg/kg body weight

**Hexamethyldistannane** (661-69-8)

- **LD50 oral rat**: 7690 µg/kg 25 mg/kg
- **LD50 dermal rabbit**: 53800 µg/kg
- **ATE US (oral)**: 7.69 mg/kg body weight
- **ATE US (dermal)**: 53.8 mg/kg body weight

**Skin corrosion/irritation**: Not classified

**Serious eye damage/irritation**: Not classified
HEXAMETHYLDITIN
Safety Data Sheet

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**Potential Adverse human health effects and symptoms**

- The closely related compound, trimethylchlorotin, is listed on the EPA Extremely Hazardous Substance List. Human fatalities have been reported for workers inhaling vapors of trimethylchlorotin. Metabolic products of hexamethylditin are expected to be similar to trimethylchlorotin.

- Symptoms/effects after inhalation: At low levels exposure to the related compound, trimethylchlorotin, may produce coughing, headache and nausea. At higher levels trimethylchlorotin has been reported to cause cerebral edema. Human fatalities have been reported from exposure to trimethylchlorotin vapors. Laboratory animal studies have demonstrated neurotoxicity, decreases in oxidative phosphorylation associated with mitochondrial binding and inhibition of ATPase. May cause irritation to the respiratory tract.

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

- Symptoms/effects after eye contact: May cause eye irritation.

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

- Chronic symptoms: The related compound, trimethylchlorotin, is a cumulative toxin. Symptomatic manifestations can follow exposure up to five days. Reported symptoms include memory loss, exhibition of rage and anger, and reduction of sexual function.

**SECTION 12: Ecological information**

12.1. Toxicity
No additional information available

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 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): 2786
DOT NA no.: UN2786

14.2. UN proper shipping name
Transport document description: UN2786 Organotin pesticides, solid, toxic (HEXAMETHYLDITIN), 6.1, II
Proper Shipping Name (DOT): Organotin pesticides, solid, toxic (HEXAMETHYLDITIN)
HEXAMETHYLDITIN
Safety Data Sheet

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): 212
DOT Packaging Bulk (49 CFR 173.xxx): 242
DOT Packaging Exceptions (49 CFR 173.xxx): None

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

SECTION 15: Regulatory information

15.1. US Federal regulations
HEXAMETHYLDITIN (661-69-8)

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.

Hexamethyldistannane (661-69-8)
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

Hexamethyldistannane (661-69-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations
Hexamethyldistannane (661-69-8)
Listed on NZIoC (New Zealand Inventory of Chemicals)

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>H300</th>
<th>Fatal if swallowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>H310</td>
<td>Fatal in contact with skin</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**

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.

Prepared by safety and environmental affairs.

Date of issue: 09/14/2015 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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