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

1.1. Product identifier

- Product form: Substance
- Physical state: Solid
- Substance name: TIN(II) CHLORIDE, dihydrate
- Product code: SNT7921
- Formula: Cl₂Sn∙2H₂O
- Synonyms: STANNOUS CHLORIDE, DIHYDRATE
- Chemical family: INORGANIC TIN

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

Use of the substance/mixture: Chemical intermediate
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

GHS-US classification
Acute Tox. 4 (Oral) H302
Skin Corr. 1C H314
Eye Dam. 1 H318
Muta. 2 H341
Repr. 2 H361

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US):
- GHS05
- GHS07
- GHS08

Signal word (GHS-US): Danger

Hazard statements (GHS-US):
- H302 - Harmful if swallowed
- H314 - Causes severe skin burns and eye damage
- H341 - Suspected of causing genetic defects
- H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS-US):
- P201 - Obtain special instructions before use
- P202 - Do not handle until all safety precautions have been read and understood
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
- P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower
- 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
P321 - Specific treatment (see first aid instructions on this label)
P363 - Wash contaminated clothing before reuse
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: Mono-constituent
Name: TIN(II) CHLORIDE, dihydrate
CAS No: 10025-69-1

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin (II) chloride, dihydrate</td>
<td>(CAS No) 10025-69-1</td>
<td>&gt; 95</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1C, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mut. 2. H341</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr. 2. H361</td>
</tr>
</tbody>
</table>

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.

First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

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, both acute and delayed
Symptoms/injuries: Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child.
Symptoms/injuries after inhalation: May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact: Causes (severe) skin burns.
Symptoms/injuries after eye contact: Causes serious eye damage.
Symptoms/injuries after ingestion: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Chronic symptoms: Exposure to dust or fumes of inorganic tin compounds is known to cause a benign pneumoniosis. (stannosis).

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: Not flammable.
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
Protection during firefighting: Do not attempt to take action without suitable protective equipment. 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: Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections
No additional information available

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.
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.
Incompatible materials: Strong oxidizing agents.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Tin (II) chloride, dihydrate (10025-69-1)
<table>
<thead>
<tr>
<th></th>
<th>USA ACGIH ACGIH TWA (mg/m³)</th>
<th>USA OSHA OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 mg/m³ as tin</td>
<td>2 mg/m³ as tin</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Provide local exhaust or general room 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 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: Flakes.
Molecular mass: 225.63/261.66 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: 37.7 °C decomposes
Freezing point: No data available
Boiling point: 652 °C (anhydrous)
Flash point: No data available
TIN(II) CHLORIDE, dihydrate
Safety Data Sheet

Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Non flammable
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : 2.710
VOC content : < 1 %
Solubility : Soluble in water. Organic solvent: Soluble: methanol, ethyl acetate
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
No additional information available

10.5. Incompatible materials
Strong oxidizing agents.

10.6. Hazardous decomposition products
Tin chloride. Tin oxide fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Oral: Harmful if swallowed.

TIN(II) CHLORIDE, dihydrate (10025-69-1)
LD50 oral rat : 1200 mg/kg
ATE US (oral) : 1200.000 mg/kg body weight

Tin (II) chloride, dihydrate (10025-69-1)
LD50 oral rat : 1200 mg/kg ; 2274.6 mg/kg
ATE US (oral) : 1200.000 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns and eye damage.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Suspected of causing genetic defects.
Animal testing indicates that this material is a probable mutagen.
Carcinogenicity : Not classified
Reproductive toxicity : Suspected of damaging fertility or the unborn child.
Animal testing indicates that this material is a probable reproductive effector.
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Symptoms/injuries after inhalation : May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact : Causes (severe) skin burns.
Symptoms/injuries after eye contact: Causes serious eye damage.
Symptoms/injuries after ingestion: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms: Exposure to dust or fumes of inorganic tin compounds is known to cause a benign pneumoniosis. (stannosis).

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

SECTION 14: Transport information

14.1. UN number
UN-No.(DOT): 3260
DOT NA no.: UN3260

14.2. UN proper shipping name
Proper Shipping Name (DOT): Corrosive solid, acidic, inorganic, n.o.s. (TIN(II) CHLORIDE, dihydrate)
Transport hazard class(es) (DOT): 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT): 8 - Corrosive

DOT Symbols: G - Identifies PSN requiring a technical name
Packing group (DOT): III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx): 154
DOT Packaging Non Bulk (49 CFR 173.xxx): 213
DOT Packaging Bulk (49 CFR 173.xxx): 240

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.

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

**Tin (II) chloride, dihydrate (10025-69-1)**

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

**Tin (II) chloride, dihydrate (10025-69-1)**

- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Japanese Poisonous and Deleterious Substances Control Law
- Listed on the Canadian IDL (Ingredient Disclosure List)
- Listed on INSQ (Mexican national Inventory of Chemical Substances)

### 15.3. US State regulations

<table>
<thead>
<tr>
<th>TIN(II) CHLORIDE, dihydrate(10025-69-1)</th>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
<td>No</td>
</tr>
</tbody>
</table>

**Tin (II) chloride, dihydrate (10025-69-1)**

<table>
<thead>
<tr>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
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<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>Non-significant risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**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.

**Full text of H-phrases:**

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Muta. 2</td>
<td>Germ cell mutagenicity Category 2</td>
</tr>
<tr>
<td>Repr. 2</td>
<td>Reproductive toxicity Category 2</td>
</tr>
<tr>
<td>Skin Corr. 1C</td>
<td>Skin corrosion/irritation Category 1C</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects</td>
</tr>
<tr>
<td>H361</td>
<td>Suspected of damaging fertility or the unborn child</td>
</tr>
</tbody>
</table>

**HMIS III Rating**

- **Health:** 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- **Flammability:** 0 Minimal Hazard
- **Physical:** 0 Minimal Hazard
TIN(II) CHLORIDE, dihydrate
Safety Data Sheet

Prepared by safety and environmental affairs.
Date of issue: 10/26/2015       Revision date: 10/29/2015       Version: 1.1

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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