SAFETY DATA SHEET

1. Identification

Product Name: Stannous Chloride Dihydrate

Cat No.: T142-3; T142-100; T142-500; T142-500LC;

Synonyms: Stannous chloride dihydrate

Recommended Use: Laboratory chemicals.

Uses advised against: No Information available

Details of the supplier of the safety data sheet

Company: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US: 001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No. US: 001-800-424-9300 / Europe: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals Category 1
Acute Inhalation Toxicity - Dusts and Mists Category 4
Skin Corrosion/irritation Category 2
Serious Eye Damage/Eye Irritation Category 2
Skin Sensitization Category 1
Germ Cell Mutagenicity Category 2
Reproductive Toxicity Category 2
Specific target organ toxicity (single exposure) Category 3
Target Organs - Respiratory system.
Specific target organ toxicity - (repeated exposure) Category 2
Target Organs - Kidney, spleen, Blood.

Label Elements

Signal Word
Warning

Hazard Statements
May be corrosive to metals
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Harmful if inhaled
May cause respiratory irritation
Suspected of causing genetic defects
Suspected of damaging the unborn child
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate</td>
<td>10025-69-1</td>
<td>&gt;95</td>
</tr>
<tr>
<td>Stannous chloride</td>
<td>7772-99-8</td>
<td></td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
If symptoms persist, call a physician.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion: Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms/effects: None reasonably foreseeable. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

Notes to Physician: Treat symptomatically.

5. Fire-fighting measures

Unsuitable Extinguishing Media: No information available.

Flash Point: No information available.

Method: No information available.

Autoignition Temperature: No data available.

Explosion Limits:
- Upper: No data available
- Lower: No data available

Sensitivity to Mechanical Impact: No information available.

Sensitivity to Static Discharge: No information available.

Specific Hazards Arising from the Chemical:
Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. In the event of fire and/or explosion do not breathe fumes. Thermal decomposition can lead to release of irritating gases and vapors. Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products: Hydrogen chloride gas. Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters:
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA:
- Health: 2
- Flammability: 0
- Instability: 1
- Physical hazards: N/A

6. Accidental release measures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

Environmental Precautions: Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean Up: Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling: Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Ensure adequate ventilation. Avoid ingestion and inhalation.

Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store in metal containers.

8. Exposure controls / personal protection

Exposure Guidelines:
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate</td>
<td>TWA: 2 mg/m³</td>
<td>(Vacated) TWA: 2 mg/m³</td>
<td>IDLH: 100 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 2 mg/m³</td>
<td>TWA: 2 mg/m³</td>
</tr>
<tr>
<td>Stannous chloride</td>
<td>TWA: 2 mg/m³</td>
<td>(Vacated) TWA: 2 mg/m³</td>
<td>IDLH: 100 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 2 mg/m³</td>
<td>TWA: 2 mg/m³</td>
</tr>
</tbody>
</table>

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

#### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tightly fitting safety goggles. Face-shield.

#### Skin and body protection

Long sleeved clothing.

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>37 - 38 °C / 98.6 - 100.4 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>652 °C / 1205.6 °F @ 760 mmHg</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammaxibility (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammaxibility or explosive limits</td>
<td>Upper: No data available</td>
</tr>
<tr>
<td></td>
<td>Lower: No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Cl₂ Sn . 2 H₂ O</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>225.63</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactive Hazard          Yes
Stability                Strong reducing agent. Fire and explosion risk in contact with oxidizing agents. Moisture sensitive.
Conditions to Avoid      Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water.
Incompatible Materials   Strong oxidizing agents, Peroxides, Alkali metals
Hazardous Decomposition Products Hydrogen chloride gas, Thermal decomposition can lead to release of irritating gases and vapors
Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions      None under normal processing.

11. Toxicological information

Acute Toxicity
Product Information
Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride</td>
<td>2300 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation            Irritating to eyes, respiratory system and skin
Sensitization         May cause sensitization by skin contact
Carcinogenicity       The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride</td>
<td>10025-69-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td></td>
<td>7772-99-8</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects    Mutagenic effects have occurred in humans.
Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.
Developmental Effects Developmental effects have occurred in experimental animals.
Teratogenicity       Teratogenic effects have occurred in experimental animals.
STOT - single exposure Respiratory system
STOT - repeated exposure Kidney spleen Blood
Aspiration hazard    No information available

Symptoms / effects, both acute and delayed
Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
Endocrine Disruptor Information
No information available

Other Adverse Effects The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.
12. Ecological information

Ecotoxicity
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>EC50 = 19.5 mg/L/48h</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation
No information available.

Mobility
Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
- UN-No: UN3260
- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
- Proper technical name: Stannous chloride dihydrate
- Hazard Class: 8
- Packing Group: III

TDG
- UN-No: UN3260
- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
- Hazard Class: 8
- Packing Group: III

IATA
- UN-No: UN3260
- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
- Hazard Class: 8
- Packing Group: III

IMDG/IMO
- UN-No: UN3260
- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
- Hazard Class: 8
- Packing Group: III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Stannous chloride</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-868-0</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance.
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule.
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base.
Production and Site Reports (40 CFR 710(B)).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA 12(b)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>SARA 313</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazardous Categorization**

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Clean Water Act**

Not applicable

**Clean Air Act**

Not applicable

**OSHA Occupational Safety and Health Administration**

Not applicable

**CERCLA**

Not applicable

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**State Right-to-Know**

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**

- Reportable Quantity (RQ): N
- DOT Marine Pollutant: N
- DOT Severe Marine Pollutant: N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade**

No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Hazard Class**

- D1B Toxic materials
- D2B Toxic materials
# 16. Other information

<table>
<thead>
<tr>
<th>Prepared By</th>
<th>Regulatory Affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thermo Fisher Scientific</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:EMSDS.RA@thermofisher.com">EMSDS.RA@thermofisher.com</a></td>
</tr>
<tr>
<td>Creation Date</td>
<td>08-Dec-2009</td>
</tr>
<tr>
<td>Revision Date</td>
<td>09-Jul-2015</td>
</tr>
<tr>
<td>Print Date</td>
<td>09-Jul-2015</td>
</tr>
<tr>
<td>Revision Summary</td>
<td>This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)</td>
</tr>
</tbody>
</table>

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of SDS**