SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product Name
Stannous Chloride, Dihydrate

Other means of identification
Product Code(s)
1B1517
UN/ID no.
3260
Synonyms
No information available

Recommended use of the chemical and restrictions on use
Recommended Use
For Further Manufacturing Use Only.
Uses advised against
Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet
Company Address
VWR International, LLC
Radnor Corporate Center
100 Matsonford Road
Radnor, PA 19087-8660

Manufacturer Address
VWR International, LLC
28600 Fountain Parkway
Solon, Ohio 44139

Company Phone Number
1-800-448-4442
E-mail Address
info@amresco-inc.com

Emergency Telephone Number
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 1 Sub-category B</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Skin Sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Hazard statements
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
Appearance | White | Physical State | Crystals | Odor | Odorless |
---|---|---|---|---|

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not regulated

Other Information
- Very toxic to aquatic life

Unknown Acute Toxicity 2 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>EC No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride</td>
<td>10025-69-1</td>
<td>-</td>
<td>98-100</td>
<td>Not applicable</td>
</tr>
<tr>
<td>dihydrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation
Move to fresh air. If not breathing, give artificial respiration.

Ingestion
Clean mouth with water and afterwards drink plenty of water. DO NOT induce vomiting unless directed to do so by a physician or poison control center.

Most important symptoms and effects, both acute and delayed
Most Important Symptoms/Effects  No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician  Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media  Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media  No information available.

Specific Hazards Arising from the Chemical  No information available.

Explosion Data
Sensitivity to Mechanical Impact  None.
Sensitivity to Static Discharge  None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal protection  Ensure adequate ventilation, especially in confined areas.

Environmental Precautions  See Section 12 for additional Ecological information.

Methods and material for containment and cleaning up

Methods for Containment  Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up  Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling  Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage  Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible Products  Bases. Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Appropriate engineering controls

Engineering Measures
- Showers
- Eyewash stations
- Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
- Avoid contact with eyes. Tight sealing safety goggles.

Skin and Body Protection
- Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory Protection
- If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures
- Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Crystals</td>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>&lt;1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Point (High in °C)</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
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<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
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</tr>
</tbody>
</table>

Other Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softening Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No information available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY
Reactivity
No data available

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible Materials
Bases. Oxidizing agents.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
Corrosive, causes burns

Inhalation
Harmful by inhalation.

Eye Contact
Corrosive to the eyes and may cause severe damage including blindness.

Skin Contact
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Irritating to skin.

Ingestion
Harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate</td>
<td>10025-69-1</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
No information available.

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

Skin Corrosion/Irritation
Causes burns.

Serious Eye Damage/Eye Irritation
Risk of serious damage to eyes.

Irritation
Irritating to eyes and skin.

Sensitization
May cause sensitization by skin contact.

Mutagenic Effects
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate</td>
<td>10025-69-1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Reproductive Toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Aspiration hazard
No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity
2 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

12. ECOLOGICAL INFORMATION
Ecotoxicity

2% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Toxicity to Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available.

Bioaccumulation/Accumulation
No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1</td>
<td>-</td>
</tr>
</tbody>
</table>

Other Adverse Effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method
Dispose of material in accordance with all federal, state, and local regulations.

Contaminated Packaging
Do not re-use empty containers.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1</td>
<td>-</td>
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<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1</td>
<td>-</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN/ID no. 3260
Proper shipping name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(STANNOUS CHLORIDE)
Hazard Class 8
Packing Group II

IATA

UN/ID no. 3260
Proper shipping name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(STANNOUS CHLORIDE)
Hazard Class 8
Packing Group II

15. REGULATORY INFORMATION

International Inventories
TSCA Complies
DSL/NDSL Does not comply
EINECS/ELINCS Does not Comply
ENCS Complies
Product Code(s) 1B1517 - Stannous Chloride, Dihydrate

Revision Date 08-Jan-2016

IECSC  Complies
KECL  Does not Comply
PICCS  Complies
AICS  Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Component</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1 (98-100)</td>
<td>-</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</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>No</td>
</tr>
</tbody>
</table>

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate - 10025-69-1</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stannous chloride dihydrate 10025-69-1</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not regulated
16. OTHER INFORMATION

Issuing Date 09-Aug-2012
Revision Date 08-Jan-2016
Revision Note No information available

Disclaimer
The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

End of Safety Data Sheet