MSDS Number: **S6434** * * * * * *Effective Date:* ***11/08/06*** * * * * * *Supercedes:* ***03/01/04***

**MSDS** Material Safety Data Sheet

*From:* Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

Mallinckrodt CHEMICALS J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

**NOTE:** CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# STANNOUS CHLORIDE

## 1. Product Identification

**Synonyms:** Tin (II) chloride dihydrate; stannochlor; stannous chloride dihydrate; Tin Dichloride, Dihydrate
**CAS No.:** 7772-99-8 (Anhydrous); 10025-69-1 (Dihydrate)
**Molecular Weight:** 225.63
**Chemical Formula:** SnCl2 . 2H2O
**Product Codes:**
J.T. Baker: 3980
Mallinckrodt: 8176

## 2. Composition/Information on Ingredients

| Ingredient | CAS No | Percent | Hazardous |
|---|---|---|---|
| Stannous Chloride | 7772-99-8 | 98 - 100% | Yes |

## 3. Hazards Identification

**Emergency Overview**
---
**WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.**

**SAF-T-DATA(tm)** Ratings (Provided here for your convenience)
---

Health Rating: 2 - Moderate (Life)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 2 - Moderate
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: Green (General Storage)
---

**Potential Health Effects**
---

**Inhalation:**
Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.
**Ingestion:**
Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. May cause burning in mouth and throat, abdominal pain, reduced blood pressure, stomach bleeding, collapse and convulsions. May cause liver and kidney damage.
**Skin Contact:**
Causes irritation to skin. Symptoms include redness, itching, and pain.
**Eye Contact:**
Causes irritation, redness, and pain.
**Chronic Exposure:**
Repeated skin contact with solutions may cause skin rashes in susceptible individuals. Prolonged inhalation of dust or fume may result in a benign pneumoconiosis, producing distinctive changes in the lungs with no apparent disability or complications.
**Aggravation of Pre-existing Conditions:**
Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

---

# 4. First Aid Measures

**Inhalation:**
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
**Ingestion:**
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
**Skin Contact:**
Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
**Eye Contact:**
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

---

# 5. Fire Fighting Measures

**Fire:**
Not considered to be a fire hazard.
**Explosion:**
Not considered an explosion hazard, but reacts explosively when mixed with nitrates or hydrogen peroxide (> 3% solution). Sealed containers may rupture when heated.
**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.
**Special Information:**
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Aqueous solutions of this material are acidic. Avoid its contact with eyes and skin. Avoid breathing its fumes or dust. When heated to decomposition it emits toxic and corrosive fume of hydrochloric acid.

---

# 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

---

# 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Aqueous solutions are acidic; use only in corrosion-resistant vessels. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

---

# 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**
Inorganic Tin Compounds, as Sn:
-OSHA Permissible Exposure Limit (PEL):2 mg/m3 (TWA)
-ACGIH Threshold Limit Value (TLV): 2 mg/m3 (TWA)
-NIOSH Recommended Exposure Limits (REL): 2 mg/m3 (TWA).
**Ventilation System:**
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.
**Personal Respirators (NIOSH Approved):**
If the exposure limit is exceeded, a full facepiece respirator with dust/mist filter may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
**Skin Protection:**
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
**Eye Protection:**
Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

---

# 9. Physical and Chemical Properties

**Appearance:**
Colorless crystals.
**Odor:**
Slight odor of hydrochloric acid.
**Solubility:**
118g/100ml water @ 0C (32F).
**Specific Gravity:**
2.71
**pH:**
No information found.
**% Volatiles by volume @ 21C (70F):**
0
**Boiling Point:**
No information found.
**Melting Point:**
38C (100F) When rapidly heated.
**Vapor Density (Air=1):**
No information found.
**Vapor Pressure (mm Hg):**
No information found.
**Evaporation Rate (BuAc=1):**
No information found.

---

# 10. Stability and Reactivity

**Stability:**
Powerful reducing agent. Small quantities of hydrochloric acid are present in aqueous solutions. Absorbs oxygen from air and forms the insoluble oxychloride. Forms an insoluble basic salt when dissolved with much water.
**Hazardous Decomposition Products:**
When heated to decomposition it emits toxic and corrosive fume of hydrochloric acid.
**Hazardous Polymerization:**
Will not occur.
**Incompatibilities:**
Sodium, potassium, bromine trifluoride, calcium carbide, calcium acetylide, ethylene oxide, and nitrates. Reacts with hydrazine hydrate to form dihydrazine chloride, which decomposes explosively when heated. Contact with strong oxidizing agents or alkalis will generate heat and fumes.
**Conditions to Avoid:**
Moisture, heat, flames, ignition sources and incompatibles.

---

# 11. Toxicological Information

Anhydrous: Oral rat LD50: 700 mg/kg. Investigated as a tumorigen, mutagen, reproductive effector. Hydrate: Investigated as a mutagen, reproductive effector.

--------\Cancer Lists\----------

| Ingredient | ---NTP Carcinogen--- Known | Anticipated | IARC Category |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Stannous Chloride (7772-99-8) | No | No | None |

# 12. Ecological Information

**Environmental Fate:**
No information found.
**Environmental Toxicity:**
No information found.

# 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

# 14. Transport Information

Not regulated.

# 15. Regulatory Information

\-------\Chemical Inventory Status - Part 1\--------

| Ingredient | TSCA | EC | Japan | Australia |
|---|---|---|---|---|
| Stannous Chloride (7772-99-8) | Yes | Yes | Yes | Yes |

\-------\Chemical Inventory Status - Part 2\--------

| Ingredient | Korea | Canada-- DSL | Canada-- NDSL | Canada-- Phil. |
|---|---|---|---|---|
| Stannous Chloride (7772-99-8) | Yes | Yes | No | Yes |

\-------\Federal, State & International Regulations - Part 1\--------

| Ingredient | -SARA 302- RQ | -SARA 302- TPQ | SARA 313 List | SARA 313 Chemical Catg. |
|---|---|---|---|---|
| Stannous Chloride (7772-99-8) | No | No | No | No |

\-------\Federal, State & International Regulations - Part 2\--------

| Ingredient | CERCLA | -RCRA- 261.33 | -TSCA- 8(d) |
|---|---|---|---|
| Stannous Chloride (7772-99-8) | No | No | No |

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No

Reactivity: No (Pure / Solid)

**Australian Hazchem Code:** None allocated.
**Poison Schedule:** None allocated.
**WHMIS:**
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

---

# 16. Other Information

**NFPA Ratings:** Health: **1** Flammability: **0** Reactivity: **0**
**Label Hazard Warning:**
WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.
**Label Precautions:**
Avoid contact with eyes, skin and clothing.
Avoid breathing dust.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
**Label First Aid:**
If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.
**Product Use:**
Laboratory Reagent.
**Revision Information:**
No Information Found.
**Disclaimer:**
**********
**Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.**
**********
**Prepared by:** Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)