MSDS Number: **S6386** * * * * * *Effective Date:* ***05/26/09*** * * * * *
Supercedes: ***08/17/06***

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.

STANNIC CHLORIDE

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1. Product Identification

Synonyms: Tetrachlorostannane pentahydrate; Tin (IV) Chloride, 5-hydrate; Tin Perchloride, 5-hydrate; Tin Tetrachloride
CAS No.: 7646-78-8 (Anhydrous) 10026-06-9 (Pentahydrate)
Molecular Weight: 350.61
Chemical Formula: SnCl4 . 5H2O
Product Codes:
J.T. Baker: 3972
Mallinckrodt: 5637

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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Tin Chloride	7646-78-8	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG DAMAGE. DANGER! Hydrochloric acid liberated upon contact with moisture or heat.

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

Health Rating: 3 - Severe (Life)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 3 - Severe (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:
Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. May be absorbed into the body by inhalation affecting the central nervous system, liver, kidney and lungs. May cause pneumoconiosis and lung edema, which can be fatal.

Ingestion:
Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea. May be absorbed into the body by ingestion affecting the central nervous system, liver, and kidney. May interfere with the body's ability to absorb iron from the diet, contributing to iron deficiency anemia. Large doses may cause general weakness, with paralysis of some parts of the nervous system and stimulation of others, leading to ataxia, stiffness and

irregularity of movement and occasionally convulsion.
Skin Contact:
Corrosive. Symptoms of redness, pain, and severe burn can occur.
Eye Contact:
Corrosive. Can cause blurred vision, redness, pain, severe tissue burns and eye damage.
Chronic Exposure:
Prolonged inhalation (dust, mist 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:
No information found.

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4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact:
Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. 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.

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5. Fire Fighting Measures

Fire:
Slight fire hazard by chemical reactions.
Explosion:
Not considered to be an explosion hazard. Sealed containers may rupture when heated.
Fire Extinguishing Media:

Use dry chemical, dry sand or carbon dioxide. Do not use water.
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.

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6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

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7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, corrosion-proof, ventilated area away from moisture, sources of heat or ignition, combustibles and oxidizers. Protect against physical damage. This material is readily hydrolyzed by water, becoming highly corrosive to metals. 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.

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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 and engineering controls are not feasible, a full facepiece particulate respirator (NIOSH type N100 filters) may be worn for up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids. glycerine, etc.) are present, use a NIOSH type R or P filter. 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.

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9. Physical and Chemical Properties

Appearance:
White to pale yellow crystals.
Odor:
Slight odor of hydrochloric acid.
Solubility:
Soluble in water.
Density:
2.04
pH:
No information found.
% Volatiles by volume @ 21C (70F):
0
Boiling Point:
No information found.
Melting Point:
56C (133F)
Vapor Density (Air=1):
9.0
Vapor Pressure (mm Hg):
30 @ 20C (68F)

Evaporation Rate (BuAc=1):
No information found.

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10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Fumes in moist air. Reacts violently with water. Do not get water inside of container. Hydrochloric acid is liberated on contact with moisture or heat.
Hazardous Decomposition Products:
Emits toxic fumes of tin and chlorine when heated to decomposition.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Violent reactions with potassium, sodium, ethylene oxide, and turpentine. Reacts vigorously with water and moisture to form hydrogen chloride (hydrochloric acid), tin oxide fume and heat. Corrosive to metals and attacks some forms of plastics and rubbers.
Conditions to Avoid:
Moisture, heat, flames, ignition sources and incompatibles.

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11. Toxicological Information

Investigated as a mutagen. Anhydrous: Inhalation rat LC50: 2300 mg/m3/10M.

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

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Tin Chloride (7646-78-8)	No	No	None

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12. Ecological Information

Environmental Fate:
No information found.

Environmental Toxicity:
96 Hr LC50 Brachydanio rerio: >1000 mg/L

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13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste 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.

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14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: STANNIC CHLORIDE, PENTAHYDRATE
Hazard Class: 8
UN/NA: UN2440
Packing Group: III
Information reported for product/size: 500G

International (Water, I.M.O.)

Proper Shipping Name: STANNIC CHLORIDE, PENTAHYDRATE
Hazard Class: 8
UN/NA: UN2440
Packing Group: III
Information reported for product/size: 500G

International (Air, I.C.A.O.)

Proper Shipping Name: STANNIC CHLORIDE, PENTAHYDRATE
Hazard Class: 8
UN/NA: UN2440
Packing Group: III
Information reported for product/size: 500G

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15. Regulatory Information

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  --------\Chemical Inventory Status - Part 1\-------------------------------
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  Ingredient                                      TSCA  EC   Japan
Australia
  ----------------------------------------------  ----  ---  -----  --------
-
  Tin Chloride (7646-78-8)                         Yes  Yes   Yes      Yes

  --------\Chemical Inventory Status - Part 2\-------------------------------
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                                                          --Canada--
  Ingredient                                      Korea  DSL   NDSL  Phil.
  ----------------------------------------------  -----  ---   ----  -----
  Tin Chloride (7646-78-8)                         Yes   Yes   No     Yes

  --------\Federal, State & International Regulations - Part 1\--------------
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                                             -SARA 302-    ------SARA 313----
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  Ingredient                                 RQ    TPQ     List  Chemical
Catg.
  ----------------------------------------  ---   -----   ----  ------------
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  Tin Chloride (7646-78-8)                   No    No      No         No

  --------\Federal, State & International Regulations - Part 2\--------------
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                                                       -RCRA-    -TSCA-
  Ingredient                                 CERCLA    261.33     8(d)
  ----------------------------------------  ------     ------    ------
  Tin Chloride (7646-78-8)                   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: Yes         (Pure / Solid)
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Australian Hazchem Code: 2X
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.

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16. Other Information

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **1**

Label Hazard Warning:

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG DAMAGE. DANGER! Hydrochloric acid liberated upon contact with moisture or heat.

Label Precautions:

Do not get in eyes, on skin, or on clothing.
Do not breathe dust, mist or vapor.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.

Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. 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, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

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