



Material Safety Data Sheet

NFPA 	HMIS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">3</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> </table>	Health Hazard	3	Fire Hazard	0	Reactivity	0	Personal Protective Equipment  See Section 15.
Health Hazard	3							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
Common Name/Trade Name	Stannous chloride anhydrous	
	Catalog Number(s).	XX500, S1533
	CAS#	7772-99-8
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
	RTECS	XP8850000
	TSCA	TSCA 8(b) inventory: Stannous chloride anhydrous
Commercial Name(s)	Not available.	
	CI#	Not available.
Synonym	Tin (II) chloride Stannous dichloride Dichlorotin Tin dichloride	
Chemical Name	Stannous Chloride	
Chemical Family	Not available.	
Chemical Formula	SnCl ₂	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
<u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000		

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	
1) Stannous chloride anhydrous	7772-99-8	2			100
Toxicological Data on Ingredients	Stannous chloride: ORAL (LD50): Acute: 700 mg/kg [Rat] (Registry of Toxic Effects of Chemical Substances). 1200 mg/kg [Mouse] (Hazardous Substance Data Bank). 250 mg/kg [Mouse] (Registry of Toxic Effects of Chemical Substances).				

Section 3. Hazards Identification	
Potential Acute Health Effects	Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects	<p>CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available.</p> <p>The substance may be toxic to blood, kidneys, lungs, liver, upper respiratory tract, skin. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.</p>
---	---

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Bromine trifluoride and stannous chloride react with flame. A mixture of stannous chloride and calcium carbide can be ignited with a match and the reaction proceeds with incandescence. When heated to decomposition it emits toxic fumes of hydrogen chloride.
Special Remarks on Explosion Hazards	A mixture of stannous chloride and nitrates may cause explosion. A mixture of sodium and stannous chloride produces strong explosion on impact.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids, alkalis.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Moisture sensitive.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Synthetic apron. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves (impervious).
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 2 (mg/m ³) from OSHA (PEL) [United States] TWA: 2 (mg/m ³) from ACGIH (TLV) [United States] TWA: 2 (mg/m ³) from NIOSH [United States] TWA: 2 STEL: 4 (mg/m ³) [Canada] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Odorless.
Molecular Weight	189.6 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	White.
Boiling Point	652°C (1205.6°F) @ 760 mm Hg		
Melting Point	246°C (474.8°F)		
Critical Temperature	Not available.		
Specific Gravity	3.95 @ 25 deg. C.(Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		

Solubility	<p>Soluble in cold water. Very slightly soluble in diethyl ether Soluble in Methyl acetate, Isobutyl alcohol, Ethyl acetate, Pyridine. Practically insoluble in Petroleum Naphtha, Xylene. Solubility in Acetone: 42.7g/100 g acetone @ 23 deg. C Solubility in Ethyl Alcohol: 54.4g/100 g ethyl alcohol @ 23 deg. C. Solubility in Isobutyl Carbinol: 10.45g/100 g Isobutyl Carbinol @ 23 deg. C. Solubility in Isopropyl Alcohol: 9.61g/100 g Isopropyl Alcohol @ 23 deg. C. Solubility in Methyl Ethyl Ketone: 9.43g/100 g Methyl Ethyl Ketone @ 23 deg. C. Solubility in Isoamyl Acetate: 3.76g/100 g Isoamyl Acetate @ 23 deg. C. Solubility in Diethyl Ether: 0.49g/100 g Diethyl Ether @ 23 deg. C. Solubility in Mineral Spirits: 0.03g/100 g Mineral Spirits @ 23 deg. C. Solubility in Water: 90g/100 g Water @ 20 deg. C.</p>
-------------------	--

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, incompatible materials, moisture.
Incompatibility with various substances	Reactive with oxidizing agents, metals, acids, alkalis.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	<p>Incompatible with sodium, potassium, bromine trifluoride, calcium carbide, calcium acetylide, ethylene oxide, chlorine, turpentine, nitrates. Reacts with hydrazine to form dihydrazine chloride which decomposes explosively when heated. Contact with strong oxidizing agents or alkalis will generate heat and fumes.</p>
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 250 mg/kg [Mouse] (Registry of Toxic Effects of Chemical Substances).
Chronic Effects on Humans	May cause damage to the following organs: blood, kidneys, lungs, liver, upper respiratory tract, skin.
Other Toxic Effects on Humans	<p>Very hazardous in case of skin contact (irritant), of ingestion, of inhalation.. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive).</p>
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	<p>May affect genetic material (mutagenic). May cause adverse reproductive effects.</p>
Special Remarks on other Toxic Effects on Humans	<p>Acute Potential Health Effects: Stannous chloride forms dilute HCl on contact with moisture or moist membranes (skin, eyes, nose, mouth, etc.) Skin: Causes severe skin irritation or skin burns particularly on contact with moist or wet skin. The risk of absorption is slight. Eyes: Causes severe eye irritation or eye burns. Inhalation: Causes chemical burns or burning irritation to the upper respiratory tract, coughing, wheezing. Irritation may lead to chemical pneumonitis and pulmonary edema. Ingestion: Harmful if swallowed. Causes nausea, abdominal pain (cramping), vomiting, and diarrhea. Can cause burning of the lips, mouth tongue, throat, and stomach, stomach bleeding, reduced blood pressure, collapse. May affect the liver and kidneys, behavior/central nervous system (headache, fatigue, somnolence, convulsions). Chronic Potential Health Effects: Skin: Repeated or prolonged contact causes skin irritation and dermatitis. Ingestion: Prolonged or repeated ingestion may cause decreased bone formation. It may also affect the blood, liver, kidneys, metabolism (weight loss). Inhalation: Repeated or prolonged inhalation may affect the brain, blood (changes in blood serum)</p>

Continued on Next Page

composition, pigmented or nucleated red blood cells, anemia), Repeated or prolonged inhalation of inorganic tin compounds may also result in Stannosis, a benign pneumonconiosis (dusty lung) producing distinctive changes in the lungs with no apparent disability or complications. Stannosis has not been associated with illness or decreased life expectancy.


Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
-----------------------	--

Section 14. Transport Information

DOT Classification	Class 8: Corrosive material
Identification	UNNA: 1759 : Corrosive solid, n.o.s. (Stannous chloride) PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Connecticut hazardous material survey.: Stannous chloride anhydrous Massachusetts RTK: Stannous chloride anhydrous New Jersey: Stannous chloride anhydrous TSCA 8(b) inventory: Stannous chloride anhydrous
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). (EINECS No. 231-868-0). Canada: Listed on Canadian Domestic Substance List (DSL). China: Listed on National Inventory. Japan: Listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS.
Other Classifications	WHMIS (Canada) CLASS E: Corrosive solid. DSCL (EEC)


R22- Harmful if swallowed.
R34- Causes burns.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	0
Reactivity	0
Personal Protection	F

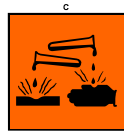
National Fire Protection Association (U.S.A.)

Health  Flammability
Reactivity
Specific hazard

WHMIS (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)



Protective Equipment



Gloves.



Synthetic apron.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

Section 16. Other Information**MSDS Code** S4750**References** Not available.

Other Special Considerations Major Uses: Powerful reducing agent, particularly in manufacture of dyes; in tanning by galvanic methods; in liquor finishing of wire; in sensitizing of glass before metallizing; as soldering flux; as mordant in dyeing with cochineal; in manufacture of color pigments, pharmaceuticals, sensitized paper, lubricating oil additives; as tanning agent; in removing ink stains; in yeast revivers; reagent in analytical chemistry; as catalyst in organic reactions

Anhydrous stannous chloride is used extensively in the plating industry and in tin alloy plating. Used as an analytical reducing agent, a reducing agent in inorganic and organic chemicals manufacture and in the photobleaching of dyes, and as a sensitizing agent for nonconductive surfaces before silver coating or other metallization processes. It is also used to sensitize plastics prior to their electroless coating with metals. It is also used as a food additive

Validated by Sonia Owen on 1/28/2010.

Verified by Sonia Owen.

Printed 1/28/2010.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.