SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Tin(II) sulfide

sc-272610

Material Safety Data Sheet

Hazard Alert Code Key:	EXTREME	HIGH	MODERATE	LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
Tin(II) sulfide

STATEMENT OF HAZARDOUS NATURE
CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA


SUPPLIER
Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

EMERGENCY
ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS
S-Sn, SnS, "stannous sulphide", "tin (II) sulphide", "tin monosulfide", "tin protosulfide"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability:	0		
Toxicity:	2		
Body Contact:	2		
Reactivity:	0		
Chronic:	2		

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4

CANADIAN WHMIS SYMBOLS


EMERGENCY OVERVIEW

RISK
Irritating to eyes, respiratory system and skin.
Very toxic to aquatic organisms.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
■ Accidental ingestion of the material may be damaging to the health of the individual.
■ Tin salts are not very toxic.
However, at high concentration, nausea, vomiting and diarrhea can occur.
■ If ingested, sulfide salts can form hydrogen sulfide, causing headache, cyanosis, low blood pressure, loss of consciousness, tremors and convulsions.

EYE
■ This material can cause eye irritation and damage in some persons.

SKIN
■ This material can cause inflammation of the skin oncontact in some persons.
■ The material may accentuate any pre-existing dermatitis condition.
■ Skin contact is not thought to have harmful health effects, however the material may still produce health damage following entry through wounds, lesions or abrasions.
■ Open cuts, abraded or irritated skin should not be exposed to this material.
■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED
■ The material can cause respiratory irritation in some persons.
The body's response to such irritation can cause further lung damage.
■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

CHRONIC HEALTH EFFECTS
■ Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.
Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.
Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.
Chronic exposure to tin dusts and fume can result in substantial amounts being deposited in the lungs and result in reduced lung function and difficulty breathing.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
stannous sulfide	1314-95-0	>95

Section 4 - FIRST AID MEASURES

SWALLOWED
· If swallowed do NOT induce vomiting. · If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

EYE
■ If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN
■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

INHALED
· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested.

NOTES TO PHYSICIAN
■ For exposures involving sulfides and hydrogen sulfide (including gastric acid decomposition products of alkaline sulfides).
· Hydrogen sulfide anion produces its major toxic effect through inhibition of cytochrome oxidases.
· Symptoms include profuse salivation, nausea, vomiting and diarrhea. Central nervous effects may include giddiness, headache, vertigo, amnesia, confusion and unconsciousness. Tachypnea, palpitation, tachycardia, arrhythmia, sweating, weakness and muscle cramps may also indicate over-exposures.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Negligible

Upper Explosive Limit (%):	Not applicable
Specific Gravity (water=1):	5.08
Lower Explosive Limit (%):	Not applicable

EXTINGUISHING MEDIA
· Water spray or fog.
· Foam.

FIRE FIGHTING
· Alert Emergency Responders and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves for fire only.
When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 100 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS
· Non combustible.
· Not considered to be a significant fire risk, however containers may burn.
Decomposition may produce toxic fumes of: sulfur oxides (SOx), metal oxides.

FIRE INCOMPATIBILITY
■ None known.

PERSONAL PROTECTION
Glasses:
Chemical goggles.
Gloves:
Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
· Remove all ignition sources.
· Clean up all spills immediately.
· Avoid contact with skin and eyes.
· Control personal contact by using protective equipment.
· Use dry clean up procedures and avoid generating dust.
· Place in a suitable, labelled container for waste disposal.
Environmental hazard - contain spillage.
MAJOR SPILLS
■ Environmental hazard - contain spillage.
Moderate hazard.
· CAUTION: Advise personnel in area.
· Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
· Avoid all personal contact, including inhalation.
· Wear protective clothing when risk of exposure occurs.

RECOMMENDED STORAGE METHODS
■ Glass container.
· Polyethylene or polypropylene container.
· Check all containers are clearly labelled and free from leaks.

STORAGE REQUIREMENTS
■ Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
US - Alaska Limits for Air Contaminants	stannous sulfide (Tin oxide (as Sn))		2						

Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	stannous sulfide (Tin, inorganic compounds, (as Sn) (except SnH4 and SnO2))	-	2	-	4
Canada - Northwest Territories Occupational Exposure Limits (English)	stannous sulfide (Tin, inorganic compounds, except SnH and SnO (as Sn))		2		4
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	stannous sulfide (Tin, inorganic compounds (except oxides) (as Sn))		2		
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	stannous sulfide (Tin, inorganic compounds (except oxides) (as Sn))		2		
US - Michigan Exposure Limits for Air Contaminants	stannous sulfide (Tin, Inorganic compounds (except oxides)(as Sn))		2		
US - Hawaii Air Contaminant Limits	stannous sulfide (Tin, inorganic compounds (except oxides) (as Sn))		2		4
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	stannous sulfide (Tin, inorganic compounds (except oxides) (as Sn))		2		
US - Michigan Exposure Limits for Air Contaminants	stannous sulfide (Tin, Inorganic compounds (except oxides) Organic compounds (as Sn))		0.1		
US - Oregon Permissible Exposure Limits (Z-1)	stannous sulfide (Tin (inorganic compounds, except oxides) as Sn)		2		
US - Idaho - Limits for Air Contaminants	stannous sulfide (Tin (inorganic compounds, except oxides) as (Sn))		2		
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	stannous sulfide (Tin, inorganic compounds (except oxides) (as Sn))		2		
US - California Permissible Exposure Limits for Chemical Contaminants	stannous sulfide (Tin, tin oxide and inorganic compounds, except SnH4,		2		

	as Sn)				
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	stannous sulfide (Tin, (as Sn): oxide and inorganic compounds except SnH4)	2	4		
US ACGIH Threshold Limit Values (TLV)	stannous sulfide (Tin - Inorganic compounds (as Sn))	2			TLV Basis: pneumoconiosis; eye & upper respiratory tract irritation; headache; nausea
Canada - Prince Edward Island Occupational Exposure Limits	stannous sulfide (Tin - Inorganic compounds (as Sn))	2			TLV Basis: pneumoconiosis; eye & upper respiratory tract irritation; headache; nausea
Canada - British Columbia Occupational Exposure Limits	stannous sulfide (Tin - Oxide and inorganic compounds, except tin hydride, as Sn)	2			
Canada - Ontario Occupational Exposure Limits	stannous sulfide (Tin, as Sn Oxide and inorganic compounds, as Sn, except tin hydride)	2			
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	stannous sulfide (Tin: Oxide and inorganic compounds except SnH4 (as Sn))	2			
Canada - Alberta Occupational Exposure Limits	stannous sulfide (Tin, as Sn: Oxide and inorganic compounds except tin hydride)	2			
US OSHA Permissible Exposure Levels (PELs) - Table Z1	stannous sulfide (Tin, inorganic compounds (except oxides) (as Sn))	2			
US - Minnesota Permissible Exposure Limits (PELs)	stannous sulfide (Tin, inorganic compounds (except oxides) (as Sn))	2			
US - Washington Permissible exposure limits of air contaminants	stannous sulfide (Tin (as Sn) - Inorganic compounds)	2	4		
Canada - Nova Scotia Occupational Exposure Limits	stannous sulfide (Tin - Inorganic compounds (as Sn))	2			TLV Basis: pneumoconiosis; eye & upper respiratory tract irritation; headache; nausea

ENDOELTABLE

PERSONAL PROTECTION




RESPIRATOR

Particulate
Consult your EHS staff for recommendations

EYE

· Safety glasses with side shields.
· Chemical goggles.

HANDS/FEET

■ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:
· frequency and duration of contact,
· chemical resistance of glove material,
· glove thickness and
· dexterity
Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).
· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
· Contaminated gloves should be replaced.
Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.
· polychloroprene
· nitrile rubber
· butyl rubber
· fluorocaoutchouc
· polyvinyl chloride
Gloves should be examined for wear and/ or degradation constantly.

OTHER

· Overalls.
· P.V.C. apron.
· Barrier cream.
· Skin cleansing cream.
· Eye wash unit.

ENGINEERING CONTROLS

■ Local exhaust ventilation usually required. If risk of overexposure exists, wear an approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.
Does not mix with water.
Sinks in water.

State	Divided solid	Molecular Weight	150.77
Melting Range (°F)	1616	Viscosity	Not Applicable
Boiling Range (°F)	2246	Solubility in water (g/L)	Immiscible
Flash Point (°F)	Not Applicable	pH (1% solution)	Not applicable
Decomposition Temp (°F)	Not available	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not applicable	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not applicable	Specific Gravity (water=1)	5.08
Lower Explosive Limit (%)	Not applicable	Relative Vapor Density (air=1)	Not applicable
Volatile Component (%vol)	Negligible	Evaporation Rate	Not applicable

APPEARANCE

Dark-grey crystals or black, amorphous powder; does not mix with water. Soluble in concentrated hydrochloric acid and hot concentrated sulfuric acid.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY
· Presence of incompatible materials.
· Product is considered stable.

STORAGE INCOMPATIBILITY
· Sulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents.
· Many reactions of sulfides with these materials generate heat and in many cases hydrogen gas.
· Many sulfide compounds may liberate hydrogen sulfide upon reaction with an acid.
· Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.
· These trifluorides are hypergolic oxidisers. They ignites on contact (without external source of heat or ignition) with recognised fuels - contact with these materials, following an ambient or slightly elevated temperature, is often violent and may produce ignition.
· The state of subdivision may affect the results.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

STANNOUS SULFIDE

TOXICITY AND IRRITATION
STANNOUS SULFIDE:
■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.
■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

SKIN

stannous sulfide	US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants - Skin	Skin Designation	X
stannous sulfide	US - Minnesota Permissible Exposure Limits (PELs) - Skin	Skin Designation	X
stannous sulfide	US OSHA Permissible Exposure Levels (PELs) - Skin	Skin Designation	X

Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms.
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions
All waste must be handled in accordance with local, state and federal regulations.
¦ Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.
A Hierarchy of Controls seems to be common - the user should investigate:
· Reduction
· Reuse
· Recycling
· Disposal (if all else fails)
This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.
DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.
· Recycle wherever possible or consult manufacturer for recycling options.
· Consult Waste Management Authority for disposal.

Section 14 - TRANSPORTATION INFORMATION

DOT:
Symbols: G Hazard class or Division: 9
Identification Numbers: UN3077 PG: III
Label Codes: 9 Special provisions: 8, 146,
335, B54,
IB8, IP3,
N20, T1,
TP33
Packaging: Exceptions: 155 Packaging: Non- bulk: 213
Packaging: Exceptions: 155 Quantity limitations: No limit
Passenger aircraft/rail:
Quantity Limitations: Cargo No limit Vessel stowage: Location: A
aircraft only:
Vessel stowage: Other: None
Hazardous materials descriptions and proper shipping names:
Environmentally hazardous substance, solid, n.o.s

Air Transport IATA:
ICAO/IATA Class: 9 ICAO/IATA Subrisk: None
UN/ID Number: 3077 Packing Group: III
Special provisions: A97
Cargo Only
Packing Instructions: 911 Maximum Qty/Pack: 400 kg
Passenger and Cargo Passenger and Cargo
Packing Instructions: 911 Maximum Qty/Pack: 400 kg
Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity
Packing Instructions: Y911 Maximum Qty/Pack: 30 kg G
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. *(CONTAINS STANNOUS SULFIDE)

Maritime Transport IMDG:
IMDG Class: 9 IMDG Subrisk: None
UN Number: 3077 Packing Group: III
EMS Number: F-A , S-F Special provisions: 179 274 335 909
Limited Quantities: 5 kg Marine Pollutant: Yes
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Section 15 - REGULATORY INFORMATION

stannous sulfide (CAS: 1314-95-0) is found on the following regulatory lists;
"Canada Non-Domestic Substances List (NDSL)","US Toxic Substances Control Act (TSCA) - Inventory"

Section 16 - OTHER INFORMATION

Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Issue Date: Dec-19-2008
Print Date:Jan-28-2011