

## Material Safety Data Sheet

Date Printed: 02/JUN/2005  
Date Updated: 20/MAY/2004  
Version 1.2  
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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#### 1 - Product and Company Information

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Product Name	TRIBUTYLTIN CHLORIDE, 96%
Product Number	T50202
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
Emergency Phone #	+61 2 9841 0566

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#### 2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
TBTC	1461-22-9	215-958-7	050-008-00-3
Formula	C <sub>12</sub> H <sub>27</sub> ClSn		
Molecular Weight	325.49 AMU		
Synonyms	Chlorid tri-n-butyltinicity (Czech) * Chlorotributylstannane * Chlorotributyltin * Monochlorotributyltin * Stannane, tributylchloro- * Tin, tri-n-butyl-, chloride * Tributylchlorotin * Tributylstannium chloride * Tributylstannyl chloride * Tributyltin chloride * Tri-n-butyltin chloride * Tri-N-butylzinn-chlorid (German) * WR 3396		

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#### 3 - Hazards Identification

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##### SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Harmful in contact with skin. Toxic if swallowed. Irritating to eyes and skin. Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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#### 4 - First Aid Measures

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##### AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

##### AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

#### AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

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### 5 - Fire Fighting Measures

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#### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

#### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed.

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### 8 - Exposure Controls / Personal Protection

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#### ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

#### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

#### EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	0.1 mg/m <sup>3</sup>

Remarks: SKIN

#### EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	0.05 mg/m <sup>3</sup>
		0.002 ppm

Remarks: 4

Remarks: H, Y

#### EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	0.05 mg/m <sup>3</sup>
		0.0021 ppm*

Remarks: C

#### EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	TWA	0.1MG(SN)/M <sup>3</sup>
OEL	STEL	0.2 mg(Sn)/m <sup>3</sup>

Remarks: Skin

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

### 9 - Physical and Chemical Properties

Appearance	Physical State: Clear liquid Color: Very faintly yellow	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	171 - 173 °C	25 mmHg
MP/MP Range	N/A	
Flash Point	113 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	1.207 g/cm <sup>3</sup>	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

### 10 - Stability and Reactivity

#### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas, Tin/tin oxides.

#### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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#### 11 - Toxicological Information

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RTECS NUMBER: WH6820000

#### ACUTE TOXICITY

LD50  
Oral  
Rat  
129 mg/kg

LD50  
Oral  
Mouse  
60 mg/kg

LD50  
Oral  
Rabbit  
0.03 mg/kg

LD50  
Oral  
Hamster  
147 mg/kg

Remarks: Peripheral Nerve and Sensation:Local anesthetic.  
Behavioral:Tremor. Behavioral:Ataxia.

#### IRRITATION DATA

Eyes  
Rabbit  
0.05 mg  
24H  
Remarks: Severe irritation effect

#### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.  
Skin Absorption: Harmful if absorbed through skin. Readily absorbed through skin.  
Eye Contact: Causes severe eye irritation.  
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.  
Ingestion: Toxic if swallowed.

#### TARGET ORGAN INFORMATION

Blood. Liver. Kidneys.

#### CHRONIC EXPOSURE - MUTAGEN

Hamster  
30 UG/L

Cell Type: ovary  
Other mutation test systems

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 65200 UG/KG  
Route of Application: Oral  
Exposure Time: (4-7D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat  
Dose: 225 MG/KG  
Route of Application: Oral  
Exposure Time: (7-15D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).  
Effects on Embryo or Fetus: Fetal death.

Species: Rat  
Dose: 321 MG/KG  
Route of Application: Oral  
Exposure Time: (13-15D PREG)  
Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).  
Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat  
Dose: 15 MG/KG  
Route of Application: Oral  
Exposure Time: (6-20D PREG)  
Result: Effects on Newborn: Behavioral.

Species: Rat  
Dose: 80 MG/KG  
Route of Application: Oral  
Exposure Time: (7-8D PREG)  
Result: Maternal Effects: Other effects. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat  
Dose: 100 MG/KG  
Route of Application: Oral  
Exposure Time: (8D PREG)  
Result: Maternal Effects: Other effects. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

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#### 12 - Ecological Information

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No data available.

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#### 13 - Disposal Considerations

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##### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local

## 14 - Transport Information

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### RID/ADR

UN#: 2810  
Class: 6.1  
PG: III  
Proper Shipping Name: Toxic liquid, organic, n.o.s.

### IMDG

UN#: 2810  
Class: 6.1  
PG: III  
Proper Shipping Name: Toxic liquid, organic, n.o.s.  
Marine Pollutant: No  
Severe Marine Pollutant: No  
Technical Name: Required

### IATA

UN#: 2810  
Class: 6.1  
PG: III  
Proper Shipping Name: Toxic liquid, organic, n.o.s.  
Inhalation Packing Group I: No  
Technical Name: Required

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 050-008-00-3

NOTA: A

INDICATION OF DANGER: T N

Toxic. Dangerous for the environment.

R-PHRASES: 21 25 36/38 48/23/25 50/53

Harmful in contact with skin. Toxic if swallowed. Irritating to eyes and skin. Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-PHRASES: 35 36/37/39 45 60 61

This material and its container must be disposed of in a safe way. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

### COUNTRY SPECIFIC INFORMATION

#### Germany

WGK: 3

#### SWITZERLAND

SWISS POISON CLASS: 3

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## 16 - Other Information

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### WARRANTY

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

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