

## Material Safety Data Sheet

Date Printed: 31/MAY/2005  
Date Updated: 14/MAR/2004  
Version 1.1  
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 TRIS(2-(DIPHENYLPHOSPHINO)ETHYL)PHOSPHINE, 97%  
Product Number 327697  
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
TRIS(2-(DIPHENYLPHOSPHINO)ETHYL)PHOSPHINE, 97%	23582-03-8	245-754-3	None

Formula C42H42P4  
Molecular Weight 670.7 AMU

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### 3 - Hazards Identification

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SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Harmful by inhalation, in contact with skin and if swallowed.  
Irritating to eyes, respiratory system and skin.

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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 contact, immediately wash skin with soap and copious amounts of water.

#### AFTER EYE CONTACT

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

#### AFTER INGESTION

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

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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****PROCEDURE(S) OF PERSONAL PRECAUTION(S)**

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

**METHODS FOR CLEANING UP**

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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**7 - Handling and Storage****HANDLING**

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing.

**STORAGE**

Conditions of Storage: Keep tightly closed. Store in a cool dry place.

**SPECIAL REQUIREMENTS:** Air sensitive.

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**8 - Exposure Controls / Personal Protection****ENGINEERING CONTROLS**

Safety shower and eye bath. Mechanical exhaust required.

**GENERAL HYGIENE MEASURES**

Wash contaminated clothing before reuse. Wash thoroughly after handling.

**PERSONAL PROTECTIVE EQUIPMENT**

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

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**9 - Physical and Chemical Properties**

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Appearance	N/A	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	134 - 135 °C	
Flash Point	N/A	
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	N/A
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

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## 10 - Stability and Reactivity

### STABILITY

Conditions to Avoid: Air.

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine.

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## 11 - Toxicological Information

### 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

Inhalation: Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes: May be harmful by inhalation, ingestion, or skin absorption. Causes eye and skin irritation.

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## 12 - Ecological Information

No data available.

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## 13 - Disposal Considerations

### SUBSTANCE DISPOSAL

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 environmental regulations.

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## 14 - Transport Information

### RID/ADR

UN#: 2811

Class: 6.1

PG: III

Proper Shipping Name: Toxic solid, organic, n.o.s.

### IMDG

UN#: 2811  
Class: 6.1  
PG: III  
Proper Shipping Name: Toxic solid, organic, n.o.s.  
Marine Pollutant: No  
Severe Marine Pollutant: No  
Technical Name: Required

#### IATA

UN#: 2811  
Class: 6.1  
PG: III  
Proper Shipping Name: Toxic solid, 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

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 20/21/22 36/37/38

Harmful by inhalation, in contact with skin and if swallowed.

Irritating to eyes, respiratory system and skin.

S-PHRASES: 26 37/39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.

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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 information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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