

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.1 Revision Date 19.03.2014

Print Date 24.11.2014

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Phenylbis(2,4,6-trimethylbenzoyl)phosphine oxide

Product Number : 511447

Brand : Aldrich

Index-No. : 015-189-00-5

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 162881-26-7

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Chemicals Pvt Limited  
Plot No 12 Bommasandra - Jigani Link Road  
560100 BANGALORE  
INDIA

Telephone : +91 80-6621 9400

Fax : +91 80-6621 9450

**1.4 Emergency telephone number**

Emergency Phone # : +91-9880711432

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Skin sensitisation (Category 1), H317

Chronic aquatic toxicity (Category 4), H413

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

R43

R53

For the full text of the R-phrases mentioned in this Section, see Section 16.

**2.2 Label elements****Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word

Warning

Hazard statement(s)

H317

May cause an allergic skin reaction.

H413

May cause long lasting harmful effects to aquatic life.

Precautionary statement(s) P280	Wear protective gloves.
Supplemental Hazard Statements	none

### 2.3 Other hazards - none

---

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula	:	C <sub>26</sub> H <sub>27</sub> O <sub>3</sub> P
Molecular Weight	:	418,46 g/mol
CAS-No.	:	162881-26-7
EC-No.	:	423-340-5
Index-No.	:	015-189-00-5

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide</b>		
CAS-No.	162881-26-7	Skin Sens. 1; Aquatic Chronic 4; H317, H413
EC-No.	423-340-5	
Index-No.	015-189-00-5	

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide</b>		
CAS-No.	162881-26-7	Xi, R43 - R53
EC-No.	423-340-5	
Index-No.	015-189-00-5	

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

---

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

---

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Oxides of phosphorus

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

---

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

---

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

---

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

---

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |  |  |
|--|--|
| a) Appearance                              | Form: powder<br>Colour: yellow           |
| b) Odour                                   | no data available                        |
| c) Odour Threshold                         | no data available                        |
| d) pH                                      | no data available                        |
| e) Melting point/freezing point            | Melting point/range: 131 - 135 °C - lit. |
| f) Initial boiling point and boiling range | no data available                        |
| g) Flash point                             | no data available                        |
| h) Evaporation rate                        | no data available                        |
| i) Flammability (solid, gas)               | no data available                        |
| j) Upper/lower                             | no data available                        |

flammability or  
explosive limits

- |   |                                  |
|---|----------------------------------|
| k) Vapour pressure                        | no data available                |
| l) Vapour density                         | no data available                |
| m) Relative density                       | 1.190 kg/m <sup>3</sup> at 21 °C |
| n) Water solubility                       | 0,0001 g/l at 20 °C - insoluble  |
| o) Partition coefficient: n-octanol/water | log Pow: 5,8 at 22 °C            |
| p) Auto-ignition temperature              | no data available                |
| q) Decomposition temperature              | no data available                |
| r) Viscosity                              | no data available                |
| s) Explosive properties                   | no data available                |
| t) Oxidizing properties                   | no data available                |

## 9.2 Other safety information

Surface tension 70,7 - 71,4 mN/m at 20 °C

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Oxidizing agents, Strong acids, Strong bases

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

---

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - male and female - > 2.000 mg/kg  
(OECD Test Guideline 401)

LD50 Dermal - rat - male and female - > 2.000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - rabbit

Result: No skin irritation - 4 h  
(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - rabbit

Result: No eye irritation - 72 h

(OECD Test Guideline 405)

#### **Respiratory or skin sensitisation**

Maximisation Test - guinea pig

Result: May cause sensitisation by skin contact.

(OECD Test Guideline 406)

#### **Germ cell mutagenicity**

Ames test

S. typhimurium

Result: negative

#### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### **Reproductive toxicity**

no data available

#### **Specific target organ toxicity - single exposure**

no data available

#### **Specific target organ toxicity - repeated exposure**

no data available

#### **Aspiration hazard**

no data available

#### **Additional Information**

Repeated dose toxicity - rat - male and female - No observed adverse effect level - 1.000 mg/kg

RTECS: Not available

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

---

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish	semi-static test LC50 - Danio rerio (zebra fish) - > 0,09 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - Daphnia magna (Water flea) - > 1,17 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	Growth inhibition EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - > 0,26 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Respiration inhibition EC50 - Sludge Treatment - > 100 mg/l - 3 h (OECD Test Guideline 209)

### **12.2 Persistence and degradability**

Biodegradability	aerobic - Exposure time 28 d Result: 1 % - Not biodegradable. (OECD Test Guideline 301B)
------------------	--

### **12.3 Bioaccumulative potential**

Bioaccumulation	Cyprinus carpio (Carp) - 28 d
-----------------	-------------------------------

Bioconcentration factor (BCF): < 5  
(OECD Test Guideline 305)

**12.4 Mobility in soil**  
no data available

**12.5 Results of PBT and vPvB assessment**  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

---

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

---

**SECTION 14: Transport information****14.1 UN number**

ADR/RID: -	IMDG: -	IATA: -
------------	---------	---------

**14.2 UN proper shipping name**

ADR/RID:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: -	IMDG: -	IATA: -
------------	---------	---------

**14.4 Packaging group**

ADR/RID: -	IMDG: -	IATA: -
------------	---------	---------

**14.5 Environmental hazards**

ADR/RID: no	IMDG Marine pollutant: no	IATA: no
-------------	---------------------------	----------

**14.6 Special precautions for user**

no data available

---

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

no data available

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

---

**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

Aquatic Chronic H317	Chronic aquatic toxicity
H413	May cause an allergic skin reaction.
Skin Sens.	May cause long lasting harmful effects to aquatic life.
	Skin sensitisation

**Full text of R-phrases referred to under sections 2 and 3**

Xi	Irritant
R43	May cause sensitisation by skin contact.
R53	May cause long-term adverse effects in the aquatic environment.

**Further information**

Copyright 2014 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

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 Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.