

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name : Tritolyl phosphate

Product Number : 268917  
Brand : Aldrich  
Index-No. : 015-015-00-8

CAS-No. : 1330-78-5

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

Identified uses : Laboratory chemicals, Synthesis of substances

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

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

#### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Reproductive toxicity (Category 2), H361  
Acute aquatic toxicity (Category 1), H400  
Chronic aquatic toxicity (Category 1), H410

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

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H361 Suspected of damaging fertility or the unborn child.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P391 Collect spillage.

P405  
P501

Store locked up.  
Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Synonyms : Tricresyl phosphate

Formula : C<sub>21</sub>H<sub>21</sub>O<sub>4</sub>P

Molecular weight : 368.36 g/mol

CAS-No. : 1330-78-5

EC-No. : 215-548-8

Index-No. : 015-015-00-8

#### Hazardous components

Component	Classification	Concentration
Tris(methylphenyl) phosphate	Repr. 2; Aquatic Acute 1; Aquatic Chronic 1; H361, H410	90 - 100 %

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

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### 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. Move out of dangerous area.

##### 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

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### 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

No data available

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

No data available

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## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

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

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

### 7.3 Specific end use(s)

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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without 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

Safety glasses with side-shields conforming to EN166 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.

##### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

##### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 120 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**

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. 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.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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

- |   |  |
|---|--|
| a) Appearance                                   | Form: liquid                               |
| b) Odour  | No data available                          |
| c) Odour Threshold                              | No data available                          |
| d) pH   | No data available                          |
| e) Melting point/freezing point                 | No data available                          |
| f) Initial boiling point and boiling range      | 265 °C (509 °F) at 13 hPa (10 mmHg) - lit. |
| g) Flash point                                  | No data available                          |
| h) Evaporation rate                             | No data available                          |
| i) Flammability (solid, gas)                    | No data available                          |
| j) Upper/lower flammability or explosive limits | No data available                          |
| k) Vapour pressure                              | No data available                          |
| l) Vapour density                               | No data available                          |
| m) Relative density                             | 1.143 g/cm <sup>3</sup> at 25 °C (77 °F)   |
| n) Water solubility                             | No data available                          |
| o) Partition coefficient: n-octanol/water       | No data available                          |
| 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**

No data available

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## 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

No data available

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Oxides of phosphorus  
Other decomposition products - No data available  
In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LC50 Inhalation - Rat - male and female - 1 h - > 11.1 mg/l

Remarks: (ECHA)

LD50 Dermal - Rat - male and female - 3,700 mg/kg

Remarks: (ECHA)

#### Skin corrosion/irritation

Skin - Rabbit

Result: slight irritation - 24 h

(Draize Test)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 24 h

(Draize Test)

Remarks: (ECHA)

#### Respiratory or skin sensitisation

##### Germ cell mutagenicity

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

Ames test

Salmonella 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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### Reproductive toxicity

Suspected of damaging the unborn child.

Suspected of damaging fertility.

**Specific target organ toxicity - single exposure**

Causes damage to organs.

**Specific target organ toxicity - repeated exposure****Aspiration hazard****Additional Information**

Repeated dose toxicity      Rat - male - Oral - 104 Weeks - NOAEL : 13 mg/kg -(ECHA)

RTECS: Not available

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

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to fish                      static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.6 mg/l - 96 h  
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates      static test EC50 - Daphnia magna (Water flea) - 0.146 mg/l - 48 h  
(OECD Test Guideline 202)

static test NOEC - Daphnia magna (Water flea) - 0.031 mg/l - 48 h  
(OECD Test Guideline 202)

Toxicity to bacteria                static test EC50 - activated sludge - > 1,000 mg/l - 3 h  
(OECD Test Guideline 209)

**12.2 Persistence and degradability**

Biodegradability                    aerobic - Exposure time 28 d  
Result: 80 % - Readily biodegradable.  
(OECD Test Guideline 301C)

**12.3 Bioaccumulative potential****12.4 Mobility in soil****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**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

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**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 2574      Class: 6.1                      Packing group: II  
Proper shipping name: Tricresyl phosphate  
Reportable Quantity (RQ): Marine pollutant:yes  
Poison Inhalation Hazard: No

**IMDG**

UN number: 2574      Class: 6.1                      Packing group: II                      EMS-No: F-A, S-A  
Proper shipping name: TRICRESYL PHOSPHATE

Marine pollutant: yes

**IATA**

UN number: 2574      Class: 6.1      Packing group: II  
Proper shipping name: Tricresyl phosphate

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**15. REGULATORY INFORMATION**

**SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Chronic Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Tris(methylphenyl) phosphate	1330-78-5	2010-08-02

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION**

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Repr.	Reproductive toxicity

**HMIS Rating**

Health hazard:	0
Chronic Health Hazard:	*
Flammability:	1
Physical Hazard	0

**NFPA Rating**

Health hazard:	0
Fire Hazard:	1
Reactivity Hazard:	0

Further information

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**Preparation Information**  
Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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