

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Triphenyl phosphate

Product Number : 241288
Brand : Aldrich

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

Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

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

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

No known OSHA hazards

GHS Classification

Acute toxicity, Oral (Category 5)
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)

H303 : May be harmful if swallowed.
H400 : Very toxic to aquatic life.

Precautionary statement(s)

P273 : Avoid release to the environment.

HMIS Classification

Health hazard: 1
Flammability: 1
Physical hazards: 0

NFPA Rating

Health hazard: 0
Fire: 1
Reactivity Hazard: 0

Potential Health Effects

Inhalation : May be harmful if inhaled. May cause respiratory tract irritation.
Skin : May be harmful if absorbed through skin. May cause skin irritation.
Eyes : May cause eye irritation.

Ingestion

May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₁₈H₁₅O₄P
Molecular Weight : 326.28 g/mol

Component		Concentration
Triphenyl phosphate		
CAS-No.	115-86-6	-
EC-No.	204-112-2	

4. 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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Oxides of phosphorus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

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

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.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Triphenyl phosphate	115-86-6	TWA	3 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Not classifiable as a human carcinogen			
		TWA	3 mg/m ³	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	3 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	3 mg/m ³	USA. NIOSH Recommended Exposure Limits

Personal protective equipment

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand 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.

Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 30 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, 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 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.

Eye protection

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

Skin and body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	flakes
Colour	white

Safety data

pH	no data available
Melting point/freezing point	Melting point/range: 48 - 50 °C (118 - 122 °F) - lit.
Boiling point	244 °C (471 °F) at 13 hPa (10 mmHg) - lit.
Flash point	220 °C (428 °F) - closed cup
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1.7 hPa (1.3 mmHg) at 200 °C (392 °F) 0.1 hPa (0.1 mmHg) at 150 °C (302 °F)
Density	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 4.6
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Materials to avoid

Oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Oxides of phosphorus
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - rat - 3,500 mg/kg

Remarks: Behavioral:Tremor. Behavioral:Ataxia. Diarrhoea

Inhalation LC50

LC50 Inhalation - Mammal - 4,200 mg/m3

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes.
Behavioral:Somnolence (general depressed activity). Behavioral:Change in motor activity (specific assay).

Dermal LD50

LD50 Dermal - rabbit - > 7,900 mg/kg

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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 identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure

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

Synergistic effects

no data available

Additional Information

RTECS: TC8400000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 0.87 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 1 mg/l - 48 h

Toxicity to algae Growth inhibition LOEC - Desmodesmus subspicatus (green algae) - 1 mg/l - 72 h

Persistence and degradability

Bioaccumulative potential

Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 90 d
Bioconcentration factor (BCF): 271

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

no data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 3077 Class: 9

Packing group: III

Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Triphenyl phosphate)

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 3077 Class: 9

Packing group: III

EMS-No: F-A, S-F

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Triphenyl phosphate)

Marine pollutant: Marine pollutant

IATA

UN number: 3077 Class: 9

Packing group: III

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Triphenyl phosphate)

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: 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

No SARA Hazards

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Triphenyl phosphate	115-86-6	1991-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Triphenyl phosphate	115-86-6	1991-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Triphenyl phosphate	115-86-6	1991-07-01

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.

16. OTHER INFORMATION**Further information**

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