

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.3 Revision Date 28.04.2014

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Triphenylphosphine

Product Number : 93090

Brand : Fluka

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. : 603-35-0

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 Company Ltd.
The Old Brickyard
NEW ROAD, GILLINGHAM
Dorset
SP8 4XT
UNITED KINGDOM

Telephone : +44 (0)1747 833000

Fax : +44 (0)1747 833313

E-mail address : eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone # : +44 (0)1747 833100

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Skin sensitisation (Category 1), H317

Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Nervous system, H373

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

Xn Harmful R22, R43, R48/20/22

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)

H302

Harmful if swallowed.

H317	May cause an allergic skin reaction.
H373	May cause damage to organs (Nervous system) through prolonged or repeated exposure if inhaled.
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

Synonyms	: Phosphorustriphenyl
Formula	: C ₁₈ H ₁₅ P
Molecular Weight	: 262.29 g/mol
CAS-No.	: 603-35-0
EC-No.	: 210-036-0

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

Component	Classification	Concentration
Triphenylphosphine		
CAS-No. 603-35-0 EC-No. 210-036-0	Acute Tox. 4; Skin Sens. 1; STOT RE 2; H302, H317, H373	<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
Triphenylphosphine		
CAS-No. 603-35-0 EC-No. 210-036-0	Xn, R22 - R43 - R48/20/22	<= 100 %

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. Evacuate personnel to safe areas. 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.

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

Contains no substances with occupational exposure limit values.

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: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--|---|
| a) Appearance | Form: crystalline
Colour: white |
| b) Odour | odourless |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | Melting point/range: 79 - 81 °C |
| f) Initial boiling point and boiling range | 377 °C |
| g) Flash point | 180 °C - closed cup |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | The product is not flammable. - Flammability (solids) |
| j) Upper/lower flammability or | no data available |

explosive limits

- | | | |
|----|--|----------------------|
| k) | Vapour pressure | no data available |
| l) | Vapour density | 9.06 - (Air = 1.0) |
| m) | Relative density | no data available |
| n) | Water solubility | 0.00017 g/l at 22 °C |
| o) | Partition coefficient: n-octanol/water | no data available |
| p) | Auto-ignition temperature | 425 °C at 983 hPa |
| 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

Relative vapour density 9.06 - (Air = 1.0)

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

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 - 700 mg/kg

LC50 Inhalation - rat - male - 4 h - 12.5 mg/l

LD50 Dermal - rabbit - male and female - > 4,000 mg/kg

Skin corrosion/irritation

Skin - rabbit

Result: No skin irritation - 20 h

Serious eye damage/eye irritation

Eyes - rabbit

Result: No eye irritation - 24 h

Respiratory or skin sensitisation

Maximisation Test - guinea pig

May cause allergic skin reaction.
(Directive 67/548/EEC, Annex V, B.6.)

Germ cell mutagenicity

no data available

Ames test

S. typhimurium

Result: negative

mouse - male and female

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

Inhalation - May cause damage to organs through prolonged or repeated exposure. - Nervous system

Aspiration hazard

no data available

Additional Information

Repeated dose toxicity - rat - male - Inhalation

RTECS: SZ3500000

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

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - > 10,000 mg/l - 96 h (DIN 38412)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 5 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test EC50 - Desmodesmus subspicatus (green algae) - > 5 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Respiration inhibition EC50 - Pseudomonas putida - > 10,000 mg/l - 30 min

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: < 20 % - Not biodegradable.
(OECD Test Guideline 301F)

12.3 Bioaccumulative potential

no data available

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.

Acute Tox.	Acute toxicity
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure

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

Xn	Harmful
R22	Harmful if swallowed.
R43	May cause sensitisation by skin contact.
R48/20/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

Further information

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