

Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II
(COMMISSION REGULATION (EU) No 453/2010)

Product name: Triethyl phosphate

Revision date: 10/12/2013

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

1.1 Product identifier

Product name: Triethyl phosphate
CAS No.: 78-40-0

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

Identified uses: Fire retardant of rubber and plastic, plasticizer, material of insecticide, curing agent of resin and stabilizer. See the attached exposure scenarios for more information.
Uses advised against: No information available.

1.3 Details of the supplier of the SDS

Supplier: ZHANGJIAGANG FORTUNE CHEMICAL CO., LTD
Address: Rm 309, Bldg #8, Oriental New Plaza, Zhangjiagang City, Jiangsu Province, P.R.China
E-mail: sales@fortunechemtech.com
Telephone: +86-512-58300049
Fax: +86-512-58960306
Website: www.fortunechemtech.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008[CLP]

Acute toxicity - oral, Category 4; H302
Eye damage/irritation, Category 2; H319

Classification according to Directive 67/548/EEC[DSD] or Directive 1999/45/EC[DPD]

Xn; R22

Additional information

Full text of R-phrase(s)/H-statement(s): see SECTION 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008[CLP]

Hazard pictogram(s):



Signal word: Warning
Hazard statement(s): H302: Harmful if swallowed.
H319: Causes serious eye irritation.

Precautionary statement(s):

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- Prevention:** P264: Wash thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
- Response:** P301 + P312: IF SWALLOWED: Call a POISON Center or doctor/physician if you feel unwell.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313: If eye irritation persists: Get medical advice/attention.

Supplemental Hazard information (EUH):

No information available.

Special rules for supplemental label elements for certain mixtures:

No information available.

2.3 Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substance information

Substance name:	Triethyl phosphate
CAS No.:	78-40-0
EC No.:	201-114-5
Purity:	>99.5%
Molecular formula:	C ₆ H ₁₅ O ₄ P

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

In all cases of doubt, or when symptoms persist, seek medical attention.

Following inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Following skin contact:

Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Following eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion:

Call a POISON Center or doctor/physician if you feel unwell. Rinse mouth. Never give anything through

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mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Agitation, spasms, diarrhoea, nausea, vomiting, headache, ataxia.

4.3 Indication of the immediate medical attention and special treatment needed

No information available.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray, foam, dry chemical or CO₂.

Unsuitable extinguishing media: No information available.

5.2 Special hazards arising from the substance or mixture

In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include: carbon oxides, phosphorus oxides.

5.3 Advice for fire-fighters

Fire fighters should wear appropriate protective equipment and a self-contained breathing apparatus. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through split material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate personal protective equipment.

6.2 Environmental precautions

Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.

6.3 Methods and material for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material (e.g. sand, earth, vermiculite or diatomaceous earth), and place in container for disposal according to local regulations.

6.4 Reference to other SECTIONS

See SECTION 7 for information on safe handling.

See SECTION 8 for information on personal protection equipment.

See SECTION 13 for information on disposal.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

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

Occupational exposure limit values:

Not established.

DNEL (Derived No Effect Level) for workers:

Exposure pattern	Route	DNEL (Derived No Effect Level)
Acute - systemic effects	Dermal	26.6 mg/kg bw/day
Acute - systemic effects	Inhalation	93.6 mg/m ³
Acute - local effects	Dermal	26.6 mg/cm ²
Acute - local effects	Inhalation	93.6 mg/m ³
Long-term - systemic effects	Dermal	3.33 mg/kg bw/day
Long-term - systemic effects	Inhalation	11.7 mg/m ³
Long-term - local effects	Dermal	3.33 mg/cm ²
Long-term - local effects	Inhalation	11.7 mg/m ³

DNEL (Derived No Effect Level) for the general population:

Exposure pattern	Route	DNEL (Derived No Effect Level)
Acute - systemic effects	Dermal	13.3 mg/kg bw/day
Acute - systemic effects	Inhalation	23.12 mg/m ³

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Acute - systemic effects	Oral	13.3 mg/kg bw/day
Acute - local effects	Dermal	13.3 mg/cm ²
Acute - local effects	Inhalation	23.12 mg/m ³
Long-term - systemic effects	Dermal	1.66 mg/kg bw/day
Long-term - systemic effects	Inhalation	2.89 mg/m ³
Long-term - systemic effects	Oral	1.66 mg/kg bw/day
Long-term - local effects	Dermal	13.3 mg/cm ²
Long-term - local effects	Inhalation	23.12 mg/m ³

PNEC (Predicted No Effect Concentration) values:

	Value	Assessment factor
PNEC aqua - freshwater (mg/l)	0.632	50
PNEC aqua - marine water (mg/l)	0.0632	500
PNEC STP (mg/l)	298.5	10

8.2 Exposure controls

Appropriate engineering controls:

Provide local exhaust or process enclosure ventilation system.

Personal protective equipment:

Eye and face protection: Wear protective eye/face protection.

Skin protection: Wear protective gloves/clothing to prevent contact.

Respiratory protection: In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls:

Avoid release to environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Clear colourless liquid
Odour:	Odourless
pH:	Not available.
Melting point:	-56.4°C
Boiling point:	216°C
Flash point:	115°C
Evaporation rate:	Not available.
Flammability (solid, gas):	Non-flammable.
Upper/lower flammability or explosive limits:	1.2 - 10% (V)
Vapour pressure:	0.39 mmHg at 25°C
Vapour density:	Not available.
Density:	1.0725 g/cm ³
Solubility(ies):	500 g/L at 25 °C
Partition coefficient: n-octanol/water:	Log Pow: 0.8 (QSAR)
Auto-ignition temperature:	454°C

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Decomposition temperature: Not available.
Kinematic viscosity: 1.46 cSt
Explosive properties: Not available.
Oxidising properties: Not available.

9.2 Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Flames, sparks, and other sources of ignition. Moisture. Incompatible materials.

10.5 Incompatible materials

Strong acid, strong bases, strong oxidizing materials.

10.6 Hazardous decomposition products

carbon oxides, phosphorus oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity: Oral: LD₅₀ = 800 mg/kg (rat);
Inhalation: LC₅₀ > 8817 mg/m³ air (rat);
Dermal: LD₅₀ > 20000 mg/kg (rabbit);

Skin corrosion/irritation: Not irritating to the skin (exposure period: 4 hrs).

Serious eye damage/irritation: Moderately irritating to the eye (exposure period: 24 hrs).

Respiratory or skin sensitization: Non-sensitiser under the conditions of the test.

Germ cell mutagenicity: No information available.

Carcinogenicity: No information available.

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Reproductive toxicity: No information available.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: No information available.

SECTION 12: Ecological information

12.1 Toxicity

Acute (short-term) toxicity:	Fish:	LC ₅₀ ≥ 100 mg/L/96h (<i>Leuciscus idus</i>);
	Crustacea:	EC ₅₀ = 2705 mg/L/24h (<i>Daphnia magna</i>);
	Algae:	EC ₅₀ = 901 mg/L/72h (<i>Scenedesmus subspicatus</i>);

12.2 Persistence and degradability

The substance is considered inherently biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation is not expected.

12.4 Mobility in soil

The substance is soluble in water, thus its mobility in soil is high.

12.5 Results of PBT and vPvB assessment

Triethyl phosphate is neither a PBT nor a vPvB substance.

12.6 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled according to relevant national and local regulations.

SECTION 14: Transport information

14.1 Land transport (ADR/RID)

This product is not regulated.

14.2 Sea transport (IMDG)

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This product is not regulated.

14.3 Air transport (IATA)

This product is not regulated.

14.4 Additional information

No information available.

SECTION 15: Regulatory information

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

EU regulation:

Authorisations: Not available.

Restrictions on use: Not available.

EINECS: Listed.

DSD (67/548/EEC): Listed.

Other chemical regulation:

CAS No.	USA TSCA	Canada DSL	Australia AICS	Korea ECL	Japan ENCS	China IECSC
78-40-0	Listed	Listed	Listed	Listed	Listed	Listed

15.2 Chemical Safety Assessment

Chemical Safety Assessment has been carried out for this product.

SECTION 16: Other information

16.1 Revision Information

Date of the previous revision: Not applicable.

Date of this revision: 10/12/2013.

16.2 Abbreviations and acronyms

CLP: EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

EINECS: European Inventory of Existing Commercial Chemical Substances.

DSD: Dangerous Substance Directive (67/548/EEC).

TSCA: Toxic Substances Control Act, The American chemical inventory.

DSL: Domestic Substances List, The Canadian chemical inventory.

AICS: The Australian Inventory of Chemical Substances.

ECL: Existing Chemicals List, the Korean chemical inventory.

ENCS: Japanese Existing and New Chemical Substances.

IECSC: Inventory of existing chemical substances in China.

16.3 Key literature references and sources for data

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REACH Registration dossiers

16.4 Relevant R-phrases/H-statements

R22: Harmful if swallowed.

----- End of the SDS -----