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# Triethyl Phosphate

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## 1. Product Identification

**Synonyms:** Ethyl Phosphate; TEP; Phosphoric Acid, Triethyl Ester

**CAS No.:** 78-40-0

**Molecular Weight:** 182.16

**Chemical Formula:** (C<sub>2</sub>H<sub>5</sub>O)<sub>3</sub>PO

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Triethyl Phosphate	78-40-0	99 - 100%

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## 3. Hazards Identification

### Emergency Overview

**WARNING! CAUSES EYE IRRITATION.**

Contact Rating: Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES

### Potential Health Effects

#### Inhalation:

Is harmful and may be fatal. headache, nausea, vomiting, dizziness, narcosis, respiratory failure, low blood pressure, central nervous system depression.

#### Ingestion:

Is harmful and may be fatal. irritation and burns to mouth and stomach.

**Skin Contact:** Severe irritation or burns.

**Eye Contact:** Severe irritation or burns.

**Chronic Exposure:** Central nervous system depression.

**Aggravation of Pre-existing Conditions:** No information found.

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## 4. First Aid Measures

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Prompt action is essential.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes.

**Eye Contact:**

In case of eye contact, immediately flush with plenty of water for at least 15 minutes.

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## 5. Fire Fighting Measures

**Fire:**

Flash point: 116C (241F)

**Explosion:**

Closed containers exposed to heat may explode.

**Fire Extinguishing Media:**

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

**Special Information:**

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode.

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## 6. Accidental Release Measures

Wear self-contained breathing apparatus and full protective clothing. Stop leak if you can do so without risk. Use water spray to reduce vapors. Take up with sand or other non-combustible absorbent material and place into container for later disposal. Flush spill area with water.

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## 7. Handling and Storage

Keep container tightly closed. Suitable for any general chemical storage area. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:** None established.

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to the substance is apparent and engineering controls are not feasible, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**Other Control Measures:**

Special precautions must be used in storage, use and handling. Protective equipment for laboratory bench use should be chosen using professional judgment based on the size and type of reaction or test to be conducted and the available ventilation, with overriding consideration to minimize contact with the chemical.

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## 9. Physical and Chemical Properties

**Appearance:** Clear, colorless liquid.  
**Odor:** Light odor.  
**Solubility:** Complete (100%)  
**Specific Gravity:** 1.07  
**pH:** No information found.  
**% Volatiles by volume @ 21C (70F):** N/A  
**Boiling Point:** 216C (421F)  
**Melting Point:** -56C (-69F)  
**Vapor Density (Air=1):** 6.3  
**Vapor Pressure (mm Hg):** Not applicable.  
**Evaporation Rate (BuAc=1):** No information found.

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## 10. Stability and Reactivity

**Stability:** Stable under ordinary conditions of use and storage.  
**Hazardous Decomposition Products:** Oxides of phosphorus, carbon monoxide, carbon dioxide.  
**Hazardous Polymerization:** Will not occur.  
**Incompatibilities:** Strong oxidizing agents.  
**Conditions to Avoid:** Heat, flame, other sources of ignition.

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## 11. Ecological Information

**Environmental Fate:** No information found.  
**Environmental Toxicity:** No information found.

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## 12. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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## 13. Transport Information

Not regulated.

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## 14. Other Information

**Label Hazard Warning:** WARNING! CAUSES EYE IRRITATION.

**Label Precautions:**

No SAF-T-DATA Ratings have been developed for this product. Read and follow all warnings, precautions, instructions and other safety and handling information on the label and MSDS.

During use avoid contact with eyes and clothing. Wash thoroughly after handling. When not in use keep in tightly closed container.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse.

**Disclaimer:**

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