

Tributyl Phosphate (TBP) MSDS

Product Name and Identification

Product Name: [Tributyl Phosphate](#)

Synonyms: TBP

CAS Number: 126-73-8

Chemical Formula: C₁₂H₂₇O₄P

Product Use: Solvent, plasticizer, and lubricant additive. Commonly used in industrial chemical processes.

Manufacturer Information: [Provide specific details if applicable]

Composition/Ingredients

Chemical Name: Tributyl Phosphate

Concentration: 100%

CAS Number: 126-73-8

EC Number: 204-800-2

Molecular Weight: 266.32 g/mol

Hazards Identification

Classification of the Substance:

- Acute Toxicity (Oral): Category 4
- Skin Irritation: Category 2
- Eye Damage/Irritation: Category 2A

Labeling:

- **Signal Word:** Warning
- **Hazard Statements:**
 - H302: Harmful if swallowed.
 - H315: Causes skin irritation.
 - H319: Causes serious eye irritation.
- **Precautionary Statements:**
 - P264: Wash hands thoroughly after handling.
 - P280: Wear protective gloves, clothing, and eye protection.
 - P301 + P312: If swallowed, call a doctor if you feel unwell.

Additional Hazards:

May release toxic fumes (e.g., phosphorus oxides) in case of improper heating or combustion.

First Aid Measures

General Advice: Seek medical attention if symptoms persist or worsen.

- **Eye Contact:** Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present. Seek medical advice if irritation persists.
- **Skin Contact:** Wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse.
- **Inhalation:** Move to fresh air. Seek medical attention if symptoms such as dizziness or respiratory irritation occur.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek medical advice quickly.

Key Symptoms and Effects: May cause irritation to eyes, respiratory system, and skin.

Handling and Storage

Handling:

- Avoid contact with skin, eyes, and clothing.
- Use in a well-ventilated area.
- Wear appropriate personal protective equipment (PPE).

Storage:

- Store in tightly closed containers in a cool, dry, well-ventilated area.
- Keep away from incompatible substances such as strong acids or oxidizers.

Specific Storage Conditions: Protect from temperature extremes and direct sunlight.

Exposure Controls/Personal Protection

Exposure Limits:

No specific occupational limits established. Use general good industrial hygiene practices.

Engineering Controls:

Ensure adequate ventilation or mechanical exhaust to maintain airborne concentrations below acceptable levels.

Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles or face shield.
 - **Skin Protection:** Chemical-resistant gloves and apron.
 - **Respiratory Protection:** Wear a NIOSH-approved respirator when required.
 - **General Hygiene Measures:** Do not eat, drink, or smoke when handling this material.
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Physical and Chemical Properties

- **Physical State:** Liquid
 - **Appearance:** Clear, colorless to pale yellow
 - **Odor:** Mild, characteristic odor
 - **Boiling Point:** Approximately 289°C (552.2°F)
 - **Melting Point:** -80°C (-112°F)
 - **Flash Point:** 146°C (295°F) (closed cup)
 - **Solubility:** Slightly soluble in water, soluble in organic solvents
 - **Density:** 0.974 g/cm³ (at 20°C)
 - **Viscosity:** Low viscosity liquid
 - **Vapor Pressure:** 0.0015 mmHg at 25°C
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Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Conditions to Avoid:

Excessive heat, open flame, and direct sunlight.

Materials to Avoid:

Strong oxidizers, acids, and bases.

Hazardous Decomposition Products:

Carbon dioxide, carbon monoxide, and phosphorus oxides under combustion or thermal decomposition.

Reactivity: Non-reactive under standard conditions.

Toxicological Information

Routes of Exposure:

- Skin contact
- Eye contact
- Inhalation
- Ingestion

Acute Toxicity:

- **Oral LD50 (Rat):** Approximately 1,300 mg/kg
- **Dermal LD50 (Rabbit):** > 3,100 mg/kg

Chronic Effects: Prolonged exposure may lead to liver and kidney damage.

Irritation: Causes skin and eye irritation upon contact.

Carcinogenicity: No classification as a human carcinogen by IARC, OSHA, or NTP.

Other Health Effects: May cause drowsiness or dizziness. Long-term exposure to high levels can damage reproductive systems.

Disposal Considerations

Dispose of contents and container in accordance with local, regional, and national regulations.

General Disposal Guidelines:

- Do not dump into sewers, water supplies, or soil.
- Incinerate in a permitted facility or deliver to an appropriate waste disposal site.
- Handle contaminated packaging as hazardous waste unless completely cleaned.

Additional Information: Recycle if possible; ensure all disposal actions comply with government regulations.