

Tributyl Phosphate (TBP)

Company Information

Sunchem Co.,Ltd.

Add: A-11F, 186 Yangtzi Middle Road, Yangzhou, China.

Tel:+86 514 87851548

Fax:+86 514 87872867

Email: info@sunchemgroup.com

Product Identification

【Product Name】

TBP

【Synonyms】

Butyl phosphate

Phosphoric acid, tributyl ester

tri-n-Butyl phosphate

【CAS】

[126-73-8](#)

【Formula】

C₁₂H₂₇O₄P

【Molecular Weight】

266.32

【EINECS】

204-800-2

【RTECS】

TC7700000

【RTECS Class】

Tumorigen; Mutagen; Reproductive Effector; Primary Irritant

【Merck】

12,9749

【Beilstein/Gmelin】

1710584

【Beilstein Reference】

4-01-00-01531

【EC Index Number】

015-014-00-2

【EC Class】

Harmful

Physical and Chemical Properties

【Appearance】

Clear, colorless, odorless liquid.

【Solubility in water】

6 g/L

【Melting Point】

-79

【Boiling Point】

289

【Vapor Pressure】

0.004 (25 C)

【Density】

0.982 g/cm³ (20 C)

【Partition Coefficient】

4.27

【Heat Of Vaporization】

61.3 kJ/mol

【Heat Of Combustion】

-8060 kJ/mol

【Usage】

Plasticizer for cellulose esters, lacquers, plastics, & vinyl resins.

【Vapor Density】

9.2

【Saturation Concentration】

5.3 ppm (0.0005%); 88.8 ppm (0.0089%) at 25 C (calculated)

【Refractive Index】

1.4245

First Aid Measures

【Ingestion】

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

【Inhalation】

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

【Skin】

Get medical aid immediately. Wash clothing before reuse. Flush skin with plenty of soap and water.

【Eyes】

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Handling and Storage

【Storage】

Store in a cool, dry place. Keep from contact with oxidizing materials. Keep away from reducing agents. Keep containers tightly closed.

【Handling】

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

Hazards Identification

【Inhalation】

May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause adverse central nervous system effects including headache, convulsions, and possible death.

【Skin】

Causes skin irritation.

【Eyes】

Causes eye irritation.

【Ingestion】

May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause severe digestive tract irritation with abdominal pain, nausea, vomiting and diarrhea.

【Hazards】

When heated, vapors may form explosive mixtures with air: indoors, outdoors, and sewers explosion hazards.

【EC Risk Phrase】

R 22

【EC Safety Phrase】

S 25

【UN (DOT)】

Exposure Controls/Personal Protection

【Personal Protection】

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate protective gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to prevent skin exposure.

【Respirators】

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

【Exposure Effects】

May cause paralysis.

【Exposure limit(s)】

TLV: 0.2 ppm; 2.2 mg/m³ (as TWA) (ACGIH 1997). OSHA PEL: TWA 5 mg/m³ NIOSH REL: TWA 0.2 ppm (2.5 mg/m³) NIOSH IDLH: 30 ppm

【Poison Class】

4

Fire Fighting Measures

【Flash Point】

193

【Autoignition】

400

【Fire Fighting】

Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. To extinguish fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use agent

most appropriate to extinguish fire. Cool containers with flooding quantities of water until well after fire is out.

【Fire Potential】

Slight risk when exposed to heat or flame.

Accidental Release Measures

【Small spills/leaks】

Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways. Provide ventilation.

Stability and Reactivity

【Disposal Code】

3

【Stability】

Stable under normal temperatures and pressures.

【Incompatibilities】

Strong oxidizing agents, alkalis, moisture, water.

【Decomposition】

Phosphine, carbon monoxide, oxides of phosphorus, irritating and toxic fumes and gases, carbon dioxide.

【Combustion Products】

Toxic fumes of PO_x

Transport Information

【UN Number】

2810

【Hazard Class】

6.1

【Packing Group】

I; II; III

【HS Code】

2919 00 10