

Tri(2-ethylhexyl) Phosphate (TOP)

Company Information

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Product Identification

【Product Name】

Tris(2-ethylhexyl) phosphate

【Synonyms】

Disflamoll TOF

Phosphoric acid tris(2-ethylhexyl) ester

Tris(2-ethylhexyl) phosphate

【CAS】

78-42-2

【Formula】

C₂₄H₅₁O₄P

【Molecular Weight】

434.65

【EINECS】

201-116-6

【RTECS】

MP0770000

【RTECS Class】

Tumorigen; Primary Irritant

【Beilstein/Gmelin】

1715839

【Beilstein Reference】

4-01-00-01786

【EC Class】

irritant

Physical and Chemical Properties

【Appearance】

Pale yellow liquid.

【Solubility in water】

Insoluble

【Melting Point】

-70

【Boiling Point】

406

【Vapor Pressure】

2E-6 (25 C)

【Density】

0.92 g/cm³ (20 C)

【Partition Coefficient】

10.09

【Heat Of Vaporization】

63.2 kJ/mol

【Usage】

Flame retardant plasticizer for polyvinyl chloride resins.

【Vapor Density】

14.95

【Refractive Index】

1.443 (20 C)

First Aid Measures

【Ingestion】

DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician.

【Inhalation】

IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used.

【Skin】

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

【Eyes】

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

Handling and Storage

【Storage】

In general, materials which are toxic as stored or which can decompose into toxic components. Should be stored in a cool, well-ventilated place, out of direct rays of the sun, a

way from areas of high fire hazard, and should be periodically inspected. Incompatible materials should be isolated from each other.

【Handling】

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Hazards Identification

【Inhalation】

Symptoms of exposure to this compound include irritation of the skin and eyes. Skin contact may cause discomfort, itching, reddening and swelling of the skin. Eye contact may cause discomfort, redness, tearing and swelling. Other symptoms may include difficult breathing and pulmonary edema.

【Skin】

Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage.

【Eyes】

May cause mild eye irritation. Symptoms include stinging, tearing, and redness.

【Ingestion】

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

【EC Risk Phrase】

R 36/38

Exposure Controls/Personal Protection

【Personal Protection】

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Wear resistant gloves. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

【Respirators】

Wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas

cartridge (specific for organic vapors, HCl, acid gas and SO₂) with a dust/mist filter.

【Exposure Effects】

The toxicological properties of this substance have not been fully investigated.

【Poison Class】

5

Fire Fighting Measures

【Flash Point】

170

【Autoignition】

370

【Fire Fighting】

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used.

【Fire Potential】

This chemical is combustible.

Accidental Release Measures

【Small spills/leaks】

If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use an absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

Stability and Reactivity

【Disposal Code】

1

【Incompatibilities】

Incompatible with oxidizing materials Incompatible with cellulose acetate and cellulose acetate butyrate.

【Stability】

Stable.

【Decomposition】

Oxides of carbon and phosphorous.

Transport Information

【HS Code】

2919 00 90