

# Tris(2-chloroethyl) phosphate(TCEP)

## Company Information

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## Product Identification

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### **【Product Name】**

Tris(2-chloroethyl) phosphate

### **【Synonyms】**

Amgard TCEP

Cellulflex

Disflamoll TCA

Ethanol, 2-chloro-, phosphate (3:1)

Niax Flame Retardant 3CF

Tris(2-chloroethyl) orthophosphate

### **【CAS】**

[115-96-8](#)

### **【Formula】**

C<sub>6</sub>H<sub>12</sub>Cl<sub>3</sub>O<sub>4</sub>P

### **【Molecular Weight】**

285.5

### **【EINECS】**

204-118-5

### **【RTECS】**

KK2450000

**【RTECS Class】**

Tumorigen; Mutagen; Reproductive Effector

**【Beilstein/Gmelin】**

1710938

**【Beilstein Reference】**

4-01-00-01379

**【EC Index Number】**

015-102-00-0

**【EC Class】**

Carcinogenic Category 3; Harmful; Dangerous for the Environment

## Physical and Chemical Properties

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**【Appearance】**

Odorless clear liquid.

**【Solubility in water】**

7 g/L

**【Boiling Point】**

330

**【Vapor Pressure】**

.06

**【Density】**

1.422 g/cm<sup>3</sup>

**【Partition Coefficient】**

1.44

**【Heat Of Vaporization】**

36.84 kJ/mol

### **【Usage】**

Flame-retardant plasticizer.

### **【Vapor Density】**

9.8

### **【Refractive Index】**

1.4708 (20 C)

## **First Aid Measures**

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### **【Ingestion】**

Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

### **【Inhalation】**

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

### **【Skin】**

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

### **【Eyes】**

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

## **Handling and Storage**

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### **【Storage】**

Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

### **【Handling】**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion.

tion and inhalation. Use with adequate ventilation. Wash clothing before reuse.

## Hazards Identification

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### **【Inhalation】**

May cause respiratory tract irritation.

### **【Skin】**

Causes skin irritation.

### **【Eyes】**

Causes eye irritation.

### **【Ingestion】**

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

## Exposure Controls/Personal Protection

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### **【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 gloves to prevent skin exposure. Clothing: Wear appropriate clothing to prevent skin exposure.

### **【Respirators】**

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

### **【Exposure Effects】**

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

### **【Poison Class】**

3

## Fire Fighting Measures

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### **【Flash Point】**

**【Autoignition】****【Fire Fighting】**

Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Containers may explode when heated. Extinguishing media: Cool containers with flooding quantities of water until well after fire is out. In case of fire use water spray, dry chemical, carbon dioxide, or appropriate foam.

**【Fire Potential】**

This chemical is combustible.

## Accidental Release Measures

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**【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. Clean up spills immediately, using the appropriate protective equipment. Remove all sources of ignition. Provide ventilation.

## Stability and Reactivity

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**【Stability】**

Stable at room temperature in closed containers under normal storage and handling conditions.

**【Incompatibilities】**

Strong oxidizing agents.

**【Decomposition】**

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

**【Combustion Products】**

When heated to decomposition it emits very toxic fumes of phosphorous oxides and hydrogen chloride.

