

# Tris (2-ethylhexyl) phosphate

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This document provides a brief description of tris (2-ethylhexyl) phosphate, its uses, and the potential hazards associated with short and long term exposure. Environmental impact information for accidental releases is included. This information is general in nature and is not intended as a replacement for the safety data sheet (SDS), product label and other safe handling literature. For additional information consult the LANXESS safety data sheet.

## Identification

<b>Product Name:</b>	Tris (2-ethylhexyl) phosphate
<b>Chemical Name:</b>	Phosphoric Acid, tris(2-ethylhexyl)ester
<b>Synonym(s):</b>	Tris (1-hexyl-2-ethyl) phosphate Tris (2-ethyl-1hexanol) phosphate
<b>CAS Number:</b>	78-42-2

## Description

<b>Overview:</b>	Tris (2-ethylhexyl) phosphate is a viscous, clear to pale yellow liquid at ambient temperatures. The chemical has a slight, pungent odor.										
<b>Uses:</b>	Tris (2-ethylhexyl) phosphate manufactured by LANXESS is primarily used as an additive in vinyls and synthetic rubbers to impart or enhance light stability, weather resistance and flame retardant properties. The chemical is also used as a solvent in the production of hydrogen peroxide, as a carrier in the manufacture of pigments for plastics and as an additive for mineral oils.										
<b>Properties:</b>	<table><tr><td><b>Freezing Point:</b></td><td>-94°F (-70°C)</td></tr><tr><td><b>Boiling Point:</b></td><td>Decomposes</td></tr><tr><td><b>Flash Point:</b></td><td>338°F (170°C)</td></tr><tr><td><b>Auto-ignition:</b></td><td>698°F (370°C)</td></tr><tr><td><b>Solubility in Water:</b></td><td>Slight</td></tr></table>	<b>Freezing Point:</b>	-94°F (-70°C)	<b>Boiling Point:</b>	Decomposes	<b>Flash Point:</b>	338°F (170°C)	<b>Auto-ignition:</b>	698°F (370°C)	<b>Solubility in Water:</b>	Slight
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## **Potential Human Health Effects**

### **Occupational Exposure**

Potential for occupational exposure to tris (2-ethylhexyl) phosphate exists during manufacture and at transloading, storage and staging areas. A much lower potential for exposure exists in facilities using the chemical in closed manufacturing processes by trained personnel.

### **Employee Training**

Workers handling tris (2-ethylhexyl) phosphate should be trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. A NIOSH approved respirator is recommended for transloading, unloading and other operations not contained within a closed system. In addition, LANXESS recommends that goggles, permeation resistant clothing, gloves and foot protection be worn when handling tris (2-ethylhexyl) phosphate. Engineering or process controls may be necessary to minimize vapor concentrations within operations where the chemical is heated to thermal decomposition.

### **Consumer Exposure**

LANXESS does not sell tris (2-ethylhexyl) phosphate to the general public. Consumers may be exposed to trace amounts of the chemical through ingestion of drinking water and certain foods.

### **Short-Term Health Effects**

Skin contact with tris (2-ethylhexyl) phosphate may be mildly irritating with symptoms of redness and itching. Eye contact is expected to be irritating with symptoms of redness, tearing and stinging. Tris (2-ethylhexyl) phosphate is not expected to be harmful if swallowed.

### **Long-Term Health Effects**

No long-term adverse health effects are expected.

## **Physical Hazards**

Tris (2-ethylhexyl) phosphate is stable under normal conditions of use. Avoid contact with cellulose acetate and strong oxidizing agents. Heating to decomposition may release carbon monoxide, carbon dioxide, 1-octene, oxides of phosphorus, hydrocarbons and other toxic compounds. Exposure to heat, open flames and other potential sources of ignition should be avoided.

## Potential Environmental Impact

Tris (2-ethylhexyl) phosphate is biodegradable. The chemical degrades rapidly in water but may adsorb to suspended solids and sediments. An accidental release to water may pose a danger to fish (moderate toxicity), invertebrates (low toxicity) and other aquatic organisms (moderate toxicity) prior to degrading. Bioaccumulation is not expected.

## Conclusion

Under normal conditions of anticipated use as described in this Product Safety Assessment, and if the recommended safe use and handling procedures are followed, tris (2-ethylhexyl) phosphate is not expected to pose a significant risk to human health or the environment.

## References

- Environmental Health Criteria 218*, International Programme on Chemical Safety (IPCS)
- International Chemical Safety Card*, International Programme on Chemical Safety (IPCS)
- Safety Data Sheet (SDS), DISFLAMOLL TOF*, LANXESS Corporation
- MedlinePlus Medical Encyclopedia*, U.S. National Library of Medicine and the National Institutes of Health
- ToxNet Hazardous Substances Data Bank*, U.S. National Library of Medicine, National Institutes of Health and the U.S. Department of Health and Human Services

## Contact Information

LANXESS Corporation, Product Safety & Regulatory Affairs, 111 RIDC Park West Drive, Pittsburgh, PA 15275-1112, USA, Phone 1-800-526-9377 [1-800-LANXESS]

## Notices

### Use and Application Information

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of production evaluation(s)), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis at least must include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by LANXESS. All information is given without warranty or guarantee. It is expressly understood and agreed that customer assumes and hereby expressly releases LANXESS from all liability, in tort, contract or otherwise, incurred in connection with the use of our products and information. Any statement or recommendation not contained herein is unauthorized and shall not bind LANXESS Corporation. Nothing herein shall be construed as a recommendation to use any product in violation of any patent covering any material or its use. No permission or license to use any patent is implied or in fact granted by this publication.