

MATERIAL SAFETY DATA SHEET

Manufacturer: Strem Chemicals, Inc
 7 Mulliken Way
 Newburyport, MA 01950-4098 U.S.A.
 www.strem.com

Strem Customer Service (978) 499-1600
 CHEMTREC (Emergency Only) (800) 424-9300
 Poison Center (800) 562-8236

Section 1: Product Identification	
Chemical Name:	Tris(2-chloroethyl)phosphate,97%
Product Number:	93-1564
CAS Registry Number:	115-96-8
Formula:	(ClCH ₂ CH ₂ O) ₃ P(O)
EINECS Number:	204-118-5
Chemical Family:	organophosphorus compound
Synonym:	2-Chloroethanol phosphate, Tri(2-chloroethyl)phosphate

Section 2: Composition and Information on Ingredients				
Ingredient	CAS Number	Percent	ACGIH (TWA)	OSHA (PEL)
Title Compound	115-96-8	100%	no data	no data

Section 3: Hazards Identification	
Emergency Overview:	Harmful if swallowed. Possible risk of harm to the unborn child, impaired fertility and irreversible effects. Limited evidence of a carcinogenic effect. Irritating to eyes, skin and respiratory tract.
Primary Routes of Exposure:	Ingestion, eyes, inhalation
Eye Contact:	Causes mild irritation of the eyes
Skin Contact:	Causes slight to mild irritation of the skin. Prolonged contact may dry the skin and lead to rashes or more severe irritation.
Inhalation:	Irritating to the nose, mucous membranes and respiratory tract. Can cause dizziness, headaches, and nausea.
Ingestion:	Harmful if swallowed. Irritating to mouth throat and stomach. May cause dizziness, nausea, vomiting, pain and stomach upset.
Acute Health Affects:	Irritating to skin, eyes and respiratory tract. Harmful if swallowed. Possible risk of harm to the unborn child.
Chronic Health Affects:	Limited evidence of a carcinogenic effect. Damage to liver, kidney, and bladder may occur. Possible risk of impaired fertility and irreversible effects.
NTP:	No
IARC:	No
OSHA:	No

SECTION 4: First Aid Measures	
Eye Exposure:	Immediately flush the eyes with copious amounts of water for at least 10-15 minutes. A victim may need assistance in keeping their eye lids open. Get immediate medical attention.
Skin Exposure:	Wash the affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.
Inhalation:	Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.
Ingestion:	Seek medical attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

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SECTION 5: Fire Fighting Measures

Flash Point: 450°F
Autoignition Temperature: none
Explosion Limits: none
Extinguishing Medium: carbon dioxide, dry powder or foam
Special Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: In a fire material may emit toxic organic fumes, carbon monoxide, phosphorous oxides, and hydrogen chloride.
Unusual Fire or Explosion Hazards: Fine dust may form flammable mixtures with air. Handle the material in an efficient fume hood.

SECTION 6: Accidental Release Measures

Spill and Leak Procedures: Spillage in areas not adequately ventilated may require evacuation of area. Emergency response teams will require self contained breathing apparatus. Small spills may be adsorbed into diatomaceous earth, sand, or other suitable adsorbents, and swept up.

SECTION 7: Handling and Storage

Handling and Storage: Store in a cool, dry, well-ventilated area away from heat and direct sunlight. At elevated temperature this product may react slowly with moisture. Handle in a dry atmosphere.

SECTION 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses when handling a chemical substance in the laboratory.
Skin Protection: Wear protective clothing and gloves. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Work with this product in a well-ventilated area, preferably a fume hood.
Respirator: If ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.
Ventilation: Work with this product in a well-ventilated area, preferably a fume hood.
Additional Protection: No additional protection required.

SECTION 9: Physical and Chemical Properties

Color and Form: colorless liq.
Molecular Weight: 285.52
Melting Point: -51°
Boiling Point: 330°C
Vapor Pressure: no data
Specific Gravity: 1.39
Odor: no data
Solubility in Water: insoluble

SECTION 10: Stability and Reactivity

Stability: air and moisture stable
Hazardous Polymerization: no hazardous polymerization
Conditions to Avoid: contact with strong oxidizing agents. Heating to high temperature.
Incompatibility: oxidizing agents and halogens
Decomposition Products: carbon dioxide, carbon monoxide, organic fumes, hydrogen chloride, and phosphorus oxides.

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SECTION 11: Toxicological Information

Oral (rat); LD50: 1230 mg/kg. Oral (mouse); LD50: 1866 mg/kg. Intraperitoneal (mouse); LDLo: 250 mg/kg. Administration onto the skin (rabbit); LDLo: 2 gm/kg. Oral (rat); TDLo: 2100 mg/kg/16D-I. Oral (rat); TDLo: 28 gm/kg/16W-I. Oral (mouse); TDLo: 56 gm/kg/16W-I. Oral (mouse); TDLo: 56 gm/kg/16W-I. Oral (rat); TDLo: 45760 mg/kg/2Y-C. Oral (mouse); TDLo: 182 gm/kg/2Y-C. Oral (rat); TDLo: 1800 mg/kg.

RTECS Data: Bacteria-Salmonella typhimurim; Mutation in microorganisms: 1 umol/plate. Intraperitoneal (hamster); Micronucleus test: 125 mg/kg. Hamster embryo; Morphological transformation: 400 mg/L. Hamster lung; Sister chromatid exchange: 700 mg/L.

Carcinogenic Effects: Possible carcinogen
Mutagenic Effects: Possible mutagen
Tetratogenic Effects: Possible reproductive effector

SECTION 12: Ecological Information

Ecological Information: No information available

SECTION 13: Disposal Considerations

Disposal: Dispose of according to federal, state, and local regulations.

SECTION 14: Transportation

Shipping Name (CFR): Non-hazardous
Hazard Class (CFR): NA
Additional Hazard Class (CFR): NA
Packaging Group (CFR): NA
UN ID Number (CFR): NA
Shipping Name (IATA): Non-hazardous
Hazard Class (IATA): NA
Additional Hazard Class (IATA): NA
Packaging Group (IATA): NA
UN ID Number (IATA): NA

SECTION 15: Regulatory Information

TSCA: Listed in the TSCA inventory.
SARA (Title 313): Title compound not listed.
Second Ingredient: none
Third Ingredient: none

SECTION 16: Other Information

Disclaimer: The information herein is believed to be accurate and reliable as of the date compiled. However, Strem Chemicals, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information.

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