

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Toxic compound, do not ingest or inhale. Avoid all contact with this material.	

Section I. Chemical Product and Company Identification

Chemical Name	Phosphoric Acid Tricresyl Ester		
Catalog Number	P0273	Supplier	TGI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	Phosphoric Acid Tritolyl Ester		
Chemical Formula	C ₂₁ H ₂₁ O ₄ P		
CAS Number	1330-78-5	In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Phosphoric Acid Tricresyl Ester	1330-78-5	-----	Not available.	Rat LD ₅₀ (oral) 3000mg/kg Mouse LD ₅₀ (subcutaneous) 3900mg/kg

Section III. Hazards Identification

Acute Health Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Not available.</p> <p>MUTAGENIC EFFECTS : Not available.</p> <p>TERATOGENIC EFFECTS : Not available.</p> <p>DEVELOPMENTAL TOXICITY/REPRODUCTIVE:</p> <p>rat (oral) 4550mg/kg duration: male 13 weeks prior to mating. Paternal effects: spermatogenesis, testes, epidymis, sperm duct.</p> <p>rat (oral) 13200mg/kg duration: male 66 days prior to mating. Paternal effects: spermatogenesis, testes, epidymis, sperm duct.</p> <p>Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	If the victim is not breathing, perform artificial respiration. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention. Treat symptomatically and supportively.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	409°C (768.2°F)
Flash Points	234°C (453.2°F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂).		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		
Explosion Hazards	<p>Risks of explosion of the product in presence of mechanical impact: Not available.</p> <p>Risks of explosion of the product in presence of static discharge: Not available.</p> <p>No additional information is available regarding the risks of explosion.</p>		

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Emergency phone number (800) 424-9300

Fire Fighting Media
and Instructions

SMALL FIRE: Use DRY chemicals, CO₂, water spray or foam.
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.

Section VI. Accidental Release MeasuresSpill Cleanup
Instructions

Toxic liquid.
Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and StorageHandling and Storage
Information

TOXIC LIQUID. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Avoid contact with skin and eyes.

Always store away from incompatible compounds such as oxidizing agents.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

Personal Protection

Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



Exposure Limits

Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Colorless to pale yellow liquid.	Solubility	Insoluble in cold water, hot water, methanol with all common organic solvents and thinners.
Specific Gravity	1.143		
Molecular Weight	368.37	Partition Coefficient	Not available.
Boiling Point	256°C @ 10mm Hg	Vapor Pressure	0.03mmHg @ 20°C
Melting Point	Not available.	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability

This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability

Avoid excessive heat and light.

Incompatibilities

Reactive with strong oxidizing agents.

Section XI. Toxicological Information

RTECS Number

TD0175000

Routes of Exposure

Eye contact. Inhalation. Ingestion.

Toxicity Data

Rat LD₅₀ (oral) 3000mg/kg
Mouse LD₅₀ (subcutaneous) 3900mg/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY/REPRODUCTIVE:
rat (oral) 4550mg/kg duration: male 13 weeks prior to mating.
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Emergency phone number (800) 424-9300

Acute Toxic Effects

Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity

Not available.

Environmental Fate

Tricresyl phosphate (the commercial mixture with varying isomer ratios) is released to air, water, soil and sediment as a result of its production, processing and use. The major sources of release are volatilization from plastics and leaking hydraulic fluids. If released to water, tricresyl phosphate will biodegrade. Available screening studies suggest that aerobic biodegradation will occur at moderate to rapid rates with half-lives on the order of several days or less. Aqueous hydrolysis will become increasingly important as the water increases in alkalinity; at pH 9 and 26 deg C, the hydrolysis half-life is about 3 days. Tricresyl phosphate will partition from the water column to sediment. If released to soil, tricresyl phosphate is expected to biodegrade. Aqueous hydrolysis may be important in alkaline soils. Tricresyl phosphate adsorbs strongly to soil and is not expected to leach. If released to the atmosphere, tricresyl phosphate will degrade in the vapor-phase by reaction with photochemically produce dhydroxyl radicals (estimated half-life of 26 hours). Occupational exposure to tricresyl phosphate occurs through dermal contact, ingestion and inhalation of vapor; skin penetration and accidental ingestion are the main routes of toxic exposure. Tricresyl phosphate has been detected in a variety of municipal drinking waters; therefore, the general population may be exposed through ingestion. (SRC)

Section XIII. Disposal Considerations

Waste Disposal

Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.

Section XIV. Transport Information

DOT Classification

DOT CLASS 6.1: Toxic material.

PIN Number

UN2574

Proper Shipping Name

Tricresyl phosphate

Packing Group (PG)

II

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)

This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.

WHMIS Classification (Canada)

Not available.

EINECS Number (EEC)

215-548-8

EEC Risk Statements

R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.

Japanese Regulatory Data

Not available.

Section XVI. Other Information**Version 1.0**

Validated on 1/15/1998.

Printed 3/17/2005.

Notice to Reader

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.