



Centre Anti-Poison pour le Québec: (800) 463-5060

Tél. (Qc): (418) 660-8666 / 800-890-8666


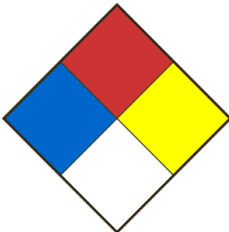
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier TRIS (2-CHLOROETHYL) PHOSPHATE		Product Use Laboratory use	
Chemical formula $C_6H_{12}Cl_3O_4P$		Product code TP-0447	Molar weight 285,49
Chemical name / Commercial name / Synonymous Tris(2-chloroethyl) Phosphate; Phosphoric Acid Tris(2-chloroethyl) Ester; Phosphate de tris(2-chloroéthyle)			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666		CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS 4/28/2020	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Carcinogenicity category 2 Reproductive toxicity category 1B Acute toxicity - Oral category 4
Signal Word	DANGER
Hazards statements (H)	H302 Harmful if swallowed. H351 Suspected of causing cancer. H360 May damage fertility or the unborn child.
Precautionary statements (P)	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P264 Wash the areas of the body that have been in contact with the product after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P308 + P313 IF exposed or concerned: Get medical advice/attention. P330 Rinse mouth. P405 Store locked up. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	Health 2 Fire 1 Reactivity 0 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Tris(2-chloroethyl) Phosphate	115-96-8	>=93

SECTION 04 - FIRST AID MEASURES

Eye contact	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
Skin contact	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	If the person is conscious, rinse the mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available.
General advice	Show this safety data sheet to the doctor in attendance.

SECTION 05 - FIREFIGHTING MEASURES

Flammability	No
Ignition conditions	It is not considered flammable, but can burn at high temperatures.
Suitable extinguishing media	Water spray, carbon dioxide, dry chemical powder, alcohol or polymer foam.
Unsuitable extinguishing media	Do not use a heavy water stream.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. Carbon monoxide, carbon dioxide. - Oxides of phosphorus, Hydrogen chloride gas.
Special fire and explosion hazards	Containers exposed to fire may explode. May react violently with incompatible products (Ref Section 10).
Special protective equipment and precautions for firefighters	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up / Personal precautions, protective equipment	Evacuate personnel to safe areas. Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Use breathing apparatus if necessary. Avoid breathing vapours, mist or gas. Discharge into the environment must be avoided. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry place. Store in a well-ventilated area. Keep container tightly closed and store away from heat, moisture, and incompatible products.
Methods of handling	Ensure good ventilation. Avoid contact with the skin, eyes and clothes. Avoid ingestion and inhalation. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14)

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Control	Value	Basis
TRIS (2-CHLOROETHYL) PHOSPHATE	115-96-8	TLV, TWA, STEL	No data available	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TLV, TWA, STEL	No data available	Canada. British Columbia OEL
		TLV, TWA, STEL	No data available	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Ventilation	Use fan.
Respiratory	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
Gloves	Handle with gloves.
Eyes	Safety goggles with safety shutters.
Shoes	Safety shoes.
Clothing	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering control	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Appearance	Liquide incolore à jaune très pâle.
Odour	Inodore à très faible.
Odour threshold	Data not available
pH	Neutre.
Melting point / Freezing point	Envir. -60°C
Initial boiling point	330°C
Boiling range	192-330°C
Flash point	222-232°C
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	Data not available
Vapour density	9.8 (Air=1)-
Relative density	1.4g/ml
Solubility	Eau: 1 à 5 mg / ml @ 20C; Soluble dans la plupart des solvants organiques..
Partition coefficient water/n-octanol	log Pow: 1.7 à 20 °C-
Auto-ignition temperature	1115°C
Decomposition temperature	220°C
Viscosity	45 cP à 20 ° C.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Avoid contact with incompatible materials and extreme temperatures.
Incompatible material	Strong oxidizers, strong bases.
Hazardous decomposition products	Toxic vapors of carbon monoxide and carbon dioxide. - Oxides of phosphorus, Hydrogen chloride gas.

SECTION 11 - TOXICOLOGICAL INFORMATION

TRIS (2-CHLOROETHYL) PHOSPHATE

Routes of exposure	Ingestion, inhalation, skin contact.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	No irritation if in contact with the eyes. To our knowledge, the product has not been fully studied.
- Skin	To our knowledge, the product has not been fully studied.
- Inhalation	To our knowledge, the product has not been fully studied.
Acute toxicity (Ingestion)	Harmful if swallowed.
Chronic exposure effects / symptoms	May cause damage to organs through prolonged or repeated exposure: Target organs: Kidney. Nervous system. May cause drowsiness or dizziness. Stomach - Irregularities - Based on the effect observed in humans May impair fertility or the fetus Is recognized as an unclassifiable agent for its carcinogenicity (Group 3 according to IARC). To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 1230 mg/kg LD50 Dermal - Rabbit - > 2,000 mg/kg.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - 5 mg/L.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 170 mg/L - 48 h. Toxicity to algae: Pseudokirchneriella subcapitata - 450 mg/L - 72 h. Toxicity to fish: LC50 - Oryzias latipes : 66 mg/L - 48h.
Persistence and degradability	Biodegradability aerobic. Duration of exposure 28 days - Result: 4 % - Not readily biodegradable.
Bioaccumulative potential	Carassius auratus (goldfish) - 96 h - 4 mg/L. Bioconcentration factor (BCF): 0.9. Cyprinus carpio (Carp) - 42 d at 25 °C - 1 mg/L. Bioconcentration factor (BCF): 0.6-0.8.
Mobility in soil	Soil adsorption (Koc): 390. Moderate mobility in the soil.
Other adverse effects	Toxic to aquatic life. All littering must be avoided in the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

UN Number	N/R
UN Proper shipping name	
Transport hazard class(es)	
Packing group	
Limited quantity index	
ERAP Index	
Special precautions	

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Carcinogenicity category 2 Reproductive toxicity category 1B Acute toxicity - Oral category 4
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SECTION 16 - OTHER INFORMATION

Further information

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

Last Update: 4/28/2020