SAFETY DATA SHEET

Updated on 09/12/2024

1. Material Identification

Product Name : Tris(2-chloroethyl) phosphate
Catalog Number : io-3178
CAS Number : 115-96-8
Identified uses : Laboratory chemicals, manufacture of chemical compounds
Company : Ionz

>> R&D Use only

2. Hazards Identification

GHS Classification:

Flammable liquid (category 2)
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Acute toxicity, inhalation (Category 3)
Specific target organ toxicity, single exposure (Category 1)

Pictogram(s)

GHS Hazard Statements

>> H302 (97.2%): Harmful if swallowed [Warning Acute toxicity, oral]

>> H351 (100%): Suspected of causing cancer [Warning Carcinogenicity]

>> H360 (88.4%): May damage fertility or the unborn child [Danger Reproductive toxicity]

>> H360F (11.1%): May damage fertility [Danger Reproductive toxicity]

>> H411 (100%): Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment, long-term hazard]

Precautionary Statement Codes

>> P203, P264, P270, P273, P280, P301+P317, P318, P330, P391, P405, and P501

Health Hazards:

>> SYMPTOMS: Symptoms of exposure to this compound may include discomfort, itching, reddening, swelling and dermatitis. It may also cause skin, eye, mucous membrane and upper respiratory tract irritation. This compound may be a weak cholinesterase inhibitor over time.

>> ACUTE/CHRONIC HAZARDS: When heated to decomposition this compound emits toxic fumes of carbon monoxide, carbon dioxide and hydrogen chloride gas. It may also emit very toxic fumes of phosphorus oxides and/or phosphine. The vapor or mist is irritating to the eyes, mucous membranes and upper respiratory tract. It may be harmful by inhalation, ingestion or skin absorption. This compound may be a weak CHOLINESTERASE INHIBITOR over time. (NTP, 1992)

>> This chemical is combustible. (NTP, 1992)

>> Combustible. Gives off irritating or toxic fumes (or gases) in a fire. Vapour/air mixtures are explosive.

3. Composition/Information On Ingredients

Chemical name : Tris(2-chloroethyl) phosphate
CAS Number : 115-96-8
Molecular Formula : C6H12Cl3O4P
Molecular Weight : 285.5000 g/mol

4. First Aid Measures

First Aid:

>> EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

>> SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

>> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.

>> INGESTION: DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. (NTP, 1992)

First Aid Measures

Inhalation First Aid

>> Fresh air, rest.

Skin First Aid

>> Rinse and then wash skin with water and soap.

Eye First Aid

>> Rinse with plenty of water for several minutes (remove contact lenses if easily possible).

Ingestion First Aid

>> Rinse mouth. Refer for medical attention .

5. Fire Fighting Measures

>> Special hazards arising from the substance or mixture: Carbon oxides, oxides of phosphorus, hydrogen chloride gas.

>> Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

>> Use water spray, powder, foam, carbon dioxide.

6. Accidental Release Measures

Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

>> Excerpt from ERG Guide 153 [Substances - Toxic and/or Corrosive (Combustible)]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

>> SPILL: Increase the immediate precautionary measure distance, in the downwind direction, as necessary.

>> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

>> Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

7. Handling And Storage

Safe Storage:

>> Keep in a well-ventilated room. Store in an area without drain or sewer access. Separated from food and feedstuffs. Provision to contain effluent from fire extinguishing.

Storage Conditions:

>> Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure Control/ Personal Protection

Inhalation Risk:

>> A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20 °C.

Effects of Long Term Exposure:

>> This substance is possibly carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

Fire Prevention

>> NO open flames, NO sparks and NO smoking.

Exposure Prevention

>> See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE. AVOID ALL CONTACT!

Inhalation Prevention

>> Use ventilation, local exhaust or breathing protection.

Skin Prevention

>> Protective gloves. Protective clothing.

Eye Prevention

>> Wear safety spectacles.

Ingestion Prevention

>> Do not eat, drink, or smoke during work.

Exposure Control and Personal Protection

Exposure Summary

>> Biological Exposure Indices (BEI) [ACGIH] - Acetylcholinesterase activity in red blood cells = 70% of individual's baseline; Butylcholinesterase activity in serum or plasma = 60% of individual's baseline; Sample at end of shift; [TLVs and BEIs]

9. Physical And Chemical Properties

Molecular Weight:

>> 285.5

Exact Mass:

>> 283.953879

Physical Description:

>> Tris(2-chloroethyl) phosphate is an odorless clear liquid. Neutral pH. (NTP, 1992)

>> COLOURLESS-TO-YELLOW LIQUID.

Color/Form:

>> Clear, transparent liquid

Odor:

>> Low odor

Boiling Point:

>> 626 °F at 760 mmHg (NTP, 1992)

Melting Point:

>> less than -76 °F (NTP, 1992)

>> -51 °C

Flash Point:

>> 450 °F (NTP, 1992)

>> 202 °C c.c.

Solubility:

>> 1 to 5 mg/mL at 68 °F (NTP, 1992)

>> Solubility in water, g/100ml at 20 °C: 0.78 (very poor)

Density:

>> 1.425 at 68 °F (NTP, 1992) - Denser than water; will sink

>> Relative density (water = 1): 1.4

Vapor Density:

>> Relative vapor density (air = 1): 9.8

Vapor Pressure:

>> 0.5 mmHg at 293 °F (NTP, 1992)

>> negligible

LogP:

>> log Kow = 1.78

>> 1.78

Stability/Shelf Life:

>> Stable under recommended storage conditions.

Autoignition Temperature:

>> 1115 °F (NTP, 1992)

>> 480 °C

Decomposition:

>> When heated to decomposition it emits very toxic fumes of POx /phosphorous oxides/ and Cl- /chlorides/.

Viscosity:

>> 45 cP at 20 °C

Refractive Index:

>> Index of refraction: 1.4721 at 20 °C/D

Collision Cross Section:

Collision cross section (CCS) represents the effective area for the interaction between an individual ion and the neutral gas through which it is traveling (e.g., in ion mobility spectrometry (IMS) experiments). It quantifies the probability of a collision taking place between two or more particles.

>> 151.31 Å² [M+H]+

>> 161.39 Å² [M+Na]+

10. Stability And Reactivity

>> Slightly water soluble.

11. Toxicological Information

Toxicity Summary:

>> IDENTIFICATION AND USE: (Tris(2-chloroethyl) phosphate is a Clear, transparent liquid. It is used primarily as an additive plasticizer and viscosity regulator with flame-retarding properties for polyurethane, polyesters, polyvinyl chloride and other polymers. HUMAN EXPOSURE AND TOXICITY: Tris(2-chloroethyl) phosphate did not consistently demonstrate detectable unscheduled DNA synthesis with and without metabolic activation and failed to show a dose-response relationship in human WI-38 cells. ANIMAL STUDIES: In repeat dose studies Tris(2-chloroethyl) phosphate caused adverse effects on the brain (hippocampal lesions in rats), liver and kidneys. Non-irritant to eyes, but conflicting reports in the literature on skin irritation, has not been tested for sensitization potential. Not teratogenic. It adversely affects the fertility of male rats and mice. In vitro mutagenicity test results were inconsistent and an in vivo micronucleus test gave equivocal results. Tris(2-chloroethyl) phosphate causes benign and malignant tumors at various organ sites in rats and mice. A very high oral dose caused some inhibition of plasma cholinesterase and brain neuropathy target esterase, but did not cause delayed neurotoxicity. In rats, a high dose caused convulsions, brain lesions and impaired performance. Metabolites in rats and mice include bis(2-chloroethyl)carboxymethyl phosphate; bis(2-chloroethyl) hydrogen phosphate; and bis(2-chloroethyl)-2-hydroxyethyl phosphate glucuronide excreted mainly via the urine.

EPA Provisional Peer-Reviewed Toxicity Values:

This section provides the EPA Provisional Peer-Reviewed Toxicity Values (PPRTVs) and links of related assessment documents.

Chemical Substance

>> Tris(2-chloroethyl)phosphate

Reference Dose (RfD), Chronic

>> 7 x 10^-3 mg/kg-day

Reference Dose (RfD), Subchronic

>> 2 x 10^-2 mg/kg-day

PPRTV Assessment

>> PDF Document

Weight-Of-Evidence (WOE)

>> Likely to be carcinogenic to humans

Last Revision

>> 2009

RAIS Toxicity Values:

This section provides the Chemical toxicity information from the Risk Assessment Information System.

Oral Chronic Reference Dose (RfDoc) (mg/kg-day)

>> 0.007

Oral Chronic Reference Dose Reference

>> PPRTV Current

Oral Subchronic Chronic Reference Dose (RfDos) (mg/kg-day)

>> 0.02

Oral Subchronic Chronic Reference Dose Reference

>> PPRTV Current

Short-term Oral Reference Dose (RfDot) (mg/kg-day)

>> 0.6

Short-term Oral Reference Dose Reference

>> ATSDR Final

Oral Slope Factor (CSFo)(mg/kg-day)^-1

>> 0.02

Oral Slope Factor Reference

>> PPRTV Current

USGS Health-Based Screening Levels for Evaluating Water-Quality:

This section provides the USGS Health-Based Screening Levels for Evaluating Water-Quality data.

Chemical

>> Tri(2-chloroethyl)phosphate

Noncancer HBSL (Health-Based Screening Level)[µg/L]

>> 40

Cancer HBSL [µg/L]

>> 1-100

Benchmark Remarks

>> RfD and CSF are from PPRTV

Reference

>> Smith, C.D. and Nowell, L.H., 2024. Health-Based Screening Levels for evaluating water-quality data (3rd ed.). DOI:10.5066/F71C1TWP

Evidence for Carcinogenicity:

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> Evaluation: No epidemiological data relevant to the carcinogenicity of tris(2-chloroethyl)phosphate were available. There is limited evidence for the carcinogenicity of tris(2-chloroethyl)phosphate in experimental animals. Overall evaluation: Tris(2-chloroethyl)phosphate is not classifiable as to its carcinogenicity to humans (Group 3).

Carcinogen Classification:

This section provides the International Agency for Research on Cancer (IARC) Carcinogenic Classification and related monograph links. In the IARC Carcinogenic classification, chemicals are categorized into four groups: Group 1 (carcinogenic to humans), Group 2A (probably carcinogenic to humans), Group 2B (possibly carcinogenic to humans), and Group 3 (not classifiable as to its carcinogenicity to humans).

IARC Carcinogenic Agent

>> Tris(2-chloroethyl) phosphate

IARC Carcinogenic Classes

>> Group 3: Not classifiable as to its carcinogenicity to humans

IARC Monographs

>> Volume 48: (1990) Some Flame Retardants and Textile Chemicals, and Exposures in the Textile Manufacturing Industry

>> Volume 71: (1999) Re-evaluation of Some Organic Chemicals, Hydrazine and Hydrogen Peroxide (Part 1, Part 2, Part 3)

>> 3, not classifiable as to its carcinogenicity to humans. (L135)

Exposure Routes:

>> The substance can be absorbed into the body in hazardous amounts by ingestion.

Adverse Effects:

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Other Poison - Organophosphate

Antidote and Emergency Treatment:

>> /SRP:/ Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Poisons A and B/

Human Toxicity Excerpts:

>> /SURVEILLANCE/ Infants and young children spend as much as 50 hr per week in child care and preschool. Although approximately 13 million children, or 65% of all U.S. children, spend some time each day in early childhood education (ECE) facilities, little information is available about environmental exposures in these environments. We measured flame retardants in air and dust collected from 40 California ECE facilities between May 2010 and May 2011. Low levels of six polybrominated diphenyl ether (PBDE) congeners and four non-PBDE flame retardants were present in air, including two constituents of Firemaster 550 and two tris phosphate compounds [tris (2-chloroethyl) phosphate (TCEP) and tris (1,3-dichloroisopropyl) phosphate (TDCIPP)]. Tris phosphate, Firemaster 550 and PBDE compounds were detected in 100% of the dust samples. BDE47, BDE99, and BDE209 comprised the majority of the PBDE mass measured in dust. The median concentrations of TCEP (319 ng/g) and TDCIPP (2265 ng/g) were similar to or higher than any PBDE congener. Levels of TCEP and TDCIPP in dust were significantly higher in facilities with napping equipment made out of foam (Mann-Whitney p-values<0.05). Child BDE99 dose estimates exceeded the RfD in one facility for children less than 3 years old. In 51% of facilities, TDCIPP dose estimates for children less than 6 years old exceeded age-specific "No Significant Risk Levels (NSRLs)" based on California Proposition 65 guidelines for carcinogens. Given the overriding interest in providing safe and healthy environments for young children, additional research is needed to identify strategies to reduce indoor sources of flame retardant chemicals.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ ... 0.5 mL TCEP was applied to the skin of three New Zealand white rabbits under a semi-occlusive dressing for 4 hr. Slight erythema (grade 1) was observed in each animal on day 1 only. Thereafter there were no signs of skin irritation.

Non-Human Toxicity Values:

>> LD50 Mouse oral 1500 mg/kg bw

National Toxicology Program Studies:

Reports from the National Toxicology Program, an interagency program supported by three government agencies (NIH, FDA, and CDC) within the Department of Health and Human Services. This program plays a critical role in generating, interpreting, and sharing toxicological information about chemicals of public health concerns.

>> 2-Year Studies: The 2-year studies in B6C3F1 mice were conducted by administering 0, 175, or 350 mg/kg tris(2-chloroethyl) phosphate (TRCP) (approximately 98% pure) in corn oil by gavage to groups of 60 males and females, 5 days per week for up to 104 weeks; 8 to 10 mice of each sex per dose group were evaluated at 66 weeks. There were no significant differences in survival between dosed and control groups of either sex, and final mean body weights of mice were similar among all groups. The principal chemical-related effects occurred in the kidney, in which nuclear enlargement (karyomegaly) of tubule epithelial cells was present in approximately 80% of high-dose mice. In the original diagnosis, renal tubule adenomas were seen in one control male, one high-dose male, and one low-dose female. A carcinoma was also seen in one high-dose male. In a subsequent examination of step sections of all the mouse kidneys, adenomas were found in one low-dose male and two high-dose males. The incidences of renal tubule neoplasms in the original and step sections combined were 1/50, 1/50, and 4/50 for males. Female mice receiving TRCP demonstrated a marginally increased incidence of neoplasms (primarily adenomas) of the harderian gland (3/50; 8/50; 7/50); in addition, three harderian gland neoplasms occurred in high-dose female mice evaluated after 66 weeks.

12. Ecological Information

Resident Soil (mg/kg)

>> 1.30e+05

Industrial Soil (mg/kg)

>> 1.60e+06

Tapwater (ug/L)

>> 4.00e+04

MCL (ug/L)

>> 5.00e+01

Risk-based SSL (mg/kg)

>> 8.80e+00

Chronic Oral Reference Dose (mg/kg-day)

>> 2.00e+00

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

Fraction of Contaminant Absorbed Dermally from Soil

>> 0.1

Oral Slope Factor (mg/kg-day)-1

>> 2.00e-02

ICSC Environmental Data:

>> The substance is toxic to aquatic organisms. It is strongly advised not to let the chemical enter into the environment.

Sediment/Soil Concentrations:

Concentrations of this compound in sediment/soil.

>> SEDIMENTS: Tris(2-chloroethyl) phosphate was detected in 5 of 6 samples taken from river and sea sediments in the vicinity of Kitakyushu City, Japan during Aug 1980 at levels ranging from 13 to 28 ng/g(1). Tris(2-chloroethyl) phosphate was detected in the sediment at a landfill and near a car demolition site at 27-380 and 2300-5500 ug/kg, respectively(2). Sediment samples collected from Kafjorden, Trondheim, Oslo and Mjosa, Norway had tris(2-chloroethyl) phosphate concentrations of <0.16-8.5 ug/kg(2). Tris(2-chloroethyl) phosphate was detected in sediment samples from the rivers Danube and Schwechat at <7.7 and 160 ug/kg dry weight, but were not detected in the rivers Haslau and Liesing; all sample sites were in Austria(2). [\

Fish/Seafood Concentrations:

Concentrations of this compound in fish or seafood.

>> Fish and shellfish captured in Okayama Prefecture (Japan) contained <0.005-0.019 ug/g of tris(chloroethyl) phosphate(1). Tris(2-chloroethyl) phosphate was detected in fish collected in lakes and coastal areas of Sweden at <2.0-160 ng/g(2). Tris(2-chloroethyl) phosphate was detected in the muscle and liver of fish at 0.5-5.0 and 13-26 ug/kg, respectively(2). Individual reported results were <5 and 8.6 ug/kg in cod and burbot liver(2). Tris(2-chloroethyl) phosphate was detected in beach crab from Trondheim and in blue mussel from Oslofjord with other results of <10-23 ug/kg in mussels from other Norwegian locations(2).

Animal Concentrations:

Concentrations of this compound in animals.

>> Tris(2-chloroethyl) phosphate was detected at unreported concentrations in the blood of white-tailed eagles and in shag egg; all samples were collected in Norway(1).

Average Daily Intake:

The average amount of the compound taken into the body through eating, drinking, or breathing.

>> The average daily intake of tris(2-chloroethyl) phosphate for infants was found to be 0.0287 ug through fruit and fruit juice(1). The average daily intake of tris(2-chloroethyl) phosphate for toddlers was found to be 0.385 ug through oils and fats(2). The daily intake of tris(2-chloroethyl) phosphate per unit of body weight for infants and toddlers in 1979 was found to be 0.016 and 0.009 ug/kg, respectively; for infants in 1980 was 0.004 ug/kg(1); for toddlers in 1981-82 was 0.028 ug/kg(2). The average daily intake of tris(2-chloroethyl) phosphate was reported as (ug/g (Age)) 0.0049 (6-11 mo); 0.0065 (2 yrs); 0.0021 (14-16 yrs female); 0.0011 (14-16 yrs male); 0.0018 (25-30 yrs female); 0.0013 (25-30 yrs male); 0.0031 (60-65 yrs female)and 0.0026 (60-65 yrs male), according to an FDA Total Diet Study from Jun 1984-Apr 1986(3).

13. Disposal Considerations

Spillage Disposal

>> Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Disposal Methods

>> SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal and plant life; and conformance with environmental and public health regulations.

>> Waste treatment methods. Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Contaminated packaging: Dispose of as unused product.

14. Transport Information

DOT

Tris(2-chloroethyl) phosphate
9
UN Pack Group: III

IATA

Tris(2-chloroethyl) phosphate
9,
UN Pack Group: III

15. Regulatory Information

TSCA Requirements:

This section provides information on requirements concerning this chemical under the Toxic Substances Control Act (TSCA) of 1976. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

>> Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Ethanol-, 2-chloro-, phosphate (3:1) is included on this list.

Regulatory Information

The Australian Inventory of Industrial Chemicals

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

>> Specific Information Requirement: Obligations to provide information apply. You must tell us within 28 days if the circumstances of your importation or manufacture (introduction) are different to those in our assessment.

California Safe Cosmetics Program (CSCP) Reportable Ingredient

>> Hazard Traits - Carcinogenicity; Genotoxicity; Hazard Trait Under Review; Hepatotoxicity and Digestive System Toxicity; Nephrotoxicity and Other Toxicity to the Urinary System; Neurotoxicity; Reproductive Toxicity

>> Authoritative List - ATSDR Neurotoxicants; CECBP - Priority Chemicals; EC Annex VI CMRs - Cat. 1B; Hazard Traits identified by DTSC; Prop 65

>> Report - regardless of intended function of ingredient in the product

REACH Registered Substance

>> Status: Cease Manufacture Update: 31-10-2012 https://echa.europa.eu/registration-dossier/-/registered-dossier/5193

REACH Substances of Very High Concern (SVHC)

>> Substance: Tris(2-chloroethyl) phosphate

>> EC: 204-118-5

>> Date of inclusion: >13-Jan-2010

>> Reason for inclusion: Toxic for reproduction (Article 57c)

New Zealand EPA Inventory of Chemical Status

>> Tris(2-chloroethyl) phosphate: Does not have an individual approval but may be used under an appropriate group standard

16. Other Information

Toxic Combustion Products:

Toxic products (e.g., gases and vapors) produced from the combustion of this chemical.

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

Other Safety Information

Chemical Assessment

>> IMAP assessments - Ethanol, 2-chloro-, phosphate (3:1): Human health tier II assessment

>> IMAP assessments - Ethanol, 2-chloro-, phosphate (3:1): Human health tier III assessment

>> PEC / SN / Other assessments - Trisphosphates: Environment

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. Ionz is not responsible for any damages resulting from handling or contact with the product incorrectly."