

Material Safety Data Sheet

Version 3.1
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Tetrakis(hydroxymethyl)phosphonium chloride solution

Product Number : 404861
Brand : Aldrich

Company : Sigma-Aldrich Canada, Ltd
2149 Winston Park Drive
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CANADA

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_4H_{12}ClO_4P$

CAS-No.	EC-No.	Index-No.	Concentration
Tetrakis(hydroxymethyl)phosphonium chloride			
124-64-1	204-707-7	-	80 %
Water			
7732-18-5	231-791-2	-	20 %

3. HAZARDS IDENTIFICATION**Emergency Overview****Target Organs**

Liver, Nerves.

WHMIS Classification

D1B Toxic Material Causing Immediate and
D2A Serious Toxic Effects
D2B

Toxic by ingestion
Toxic by skin absorption
Respiratory sensitiser
Moderate skin irritant
Moderate eye irritant

HMIS Classification

Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Toxic if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Toxic if swallowed.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point no data available

Ignition temperature no data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

Storage

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 CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Tetrakis(hydroxy methyl)phosphonium chloride	124-64-1	TWA	2 mg/m3	2006-11-29	Canada. British Columbia OEL
		TWAE V	2 mg/m3	2005-12-17	Canada. Ontario OELs

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	clear, viscous liquid
Colour	light yellow

Safety data

pH	3.5 - 4.5
Melting point	no data available
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	1.341 g/cm3 at 25 °C (77 °F)
Water solubility	no data available

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Strong oxidizing agents, Bases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Oxides of phosphorus, Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION**Acute toxicity****Irritation and corrosion****Sensitisation****Chronic exposure**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Toxic if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Toxic if swallowed.
Target Organs	Liver, Nerves.,

Additional Information

RTECS: TA2450000

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)****Ecotoxicity effects****Further information on ecology**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 2810 Class: 6.1

Packing group: III

Proper shipping name: Toxic, liquids, organic, n.o.s. (Tetrakis(hydroxymethyl)phosphonium chloride)

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 2810 Class: 6.1

Packing group: III

EMS-No: F-A, S-A

Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S. (Tetrakis(hydroxymethyl)phosphonium chloride)

Marine pollutant: No

IATA

UN-Number: 2810 Class: 6.1

Packing group: III

Proper shipping name: Toxic liquid, organic n.o.s. (Tetrakis(hydroxymethyl)phosphonium chloride)

15. REGULATORY INFORMATION

DSL Status

All components of this product are on the Canadian DSL list.

WHMIS Classification

D1B Toxic Material Causing Immediate and

D2A Serious Toxic Effects

D2B

Toxic by ingestion

Toxic by skin absorption

Respiratory sensitiser

Moderate skin irritant

Moderate eye irritant

16. OTHER INFORMATION

Further information

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