



# Safety Data Sheet

## Section 01 - Identification

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<b>Product Identifier</b>	ClearSan THPS
<b>Other Means of Identification</b>	Tetrakis hydroxymethyl phosphonium sulphate
<b>Product Use and Restrictions on Use</b>	Non-oxidizing biocide.
<b>Initial Supplier Identifier</b>	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
<b>Prepared By</b>	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
<b>24-Hour Emergency Phone</b>	Phone: 1 (306) 664 – 2522

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## Section 02 - Hazard Identification

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### GHS-Classification

<b>Acute Toxicity-Oral</b>	Category 3
<b>Acute Toxicity-Inhalation</b>	Category 3
<b>Serious Eye Damage/Irritation</b>	Category 1
<b>Skin Sensitization</b>	Category 1
<b>Reproductive Toxicity</b>	Category 2

### Physical Hazards

No known physical hazards.

### **Danger**

### **Hazards Statements**

H301 – Toxic if swallowed.  
H317 – May cause an allergic skin reaction.  
H318 – Causes serious eye damage.  
H331 – Toxic if inhaled.  
H361 – Suspected of damaging fertility or the unborn child.

### **Pictograms**



## Precautionary Statements

P201 – Obtain special instructions before use.

P202 – Do not handle until all safety precautions have been read and understood.

P261 – Avoid breathing mist or spray.

P264 – Wash affected body parts thoroughly after handling.

P270 – Do not eat drink or smoke when using this product.

P271 – Use only outdoors or in a well-ventilated area.

P272 – Contaminated work clothing should not be allowed out of the workplace.

P280 – Wear hand, skin, eye and face protection.

P301 + P310 – IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

P330 – Rinse mouth.

P302 + P352 – IF ON SKIN: Wash with plenty of water.

P333 + P313 – If skin irritation or rash occurs: Get medical advice or attention.

P362 + P364 – Take off contaminated clothing and wash it before reuse.

P304 + P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P311 – Call a POISON CENTRE or doctor.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 – Immediately call a POISON CENTRE or doctor.

P308 + P313 – IF exposed or concerned: Get medical advice or attention.

P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.

P405 – Store locked up.

P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

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## Section 03 - Composition / Information on Ingredients

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Chemical Name	CAS Number	Weight %	Unique Identifiers
Tetrakis hydroxymethyl phosphonium sulphate	55566-30-8	70%-80%	THPS

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## Section 04 - First Aid Measures

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<b>Inhalation</b>	Remove source of exposure or move person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor. If breathing has stopped, trained personnel should begin rescue breathing or if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). If exposed or concerned: Get medical advice or attention.
<b>Skin Contact / Absorption</b>	Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water. If skin irritation or rash occurs: Get medical advice or attention. Wash contaminated clothing before re-use. If exposed or concerned: Get medical advice or attention.
<b>Eye Contact</b>	Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTRE or doctor.
<b>Ingestion</b>	Immediately call a POISON CENTRE or doctor. Rinse mouth. If breathing has stopped, trained personnel should begin rescue breathing or if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). If exposed or concerned: Get medical advice or attention.
<b>Additional Information</b>	Note to physician: Probably mucosal damage may contraindicate the use of gastric lavage.

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## Section 05 - Fire Fighting Measures

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**Suitable Extinguishing Media** Extinguish fire using extinguishing agents suitable for the surrounding fire.

<b>Unsuitable Extinguishing Media</b>	Not available
<b>Specific Hazards Arising From the Chemical</b>	This chemical is probably combustible. Thermal decomposition may produce phosphine and formaldehyde. If boiled to dryness it can emit very toxic fumes of phosphorous and sulphur oxides.
<b>Special Protective Equipment and Precautions for Fire-Fighters</b>	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
<b>Further Information</b>	Not available.

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## Section 06 - Accidental Release Measures

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<b>Personal Precautions / Protective Equipment / Emergency Procedures</b>	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so.
<b>Environmental Precautions</b>	Prevent material from entering sewers.
<b>Methods and Materials for Containment and Cleaning Up</b>	Absorb spilled material with absorbent pads, rags or paper. Seal absorbent paper and another contaminated material in an air tight container for disposal.

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## Section 07 - Handling and Storage

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<b>Precautions for Safe Handling</b>	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
<b>Conditions for Safe Storage</b>	Store in a cool, dry location away from incompatible materials. Avoid heat or freezing conditions. Store upright and do not stack drums over two high on pallets or partially filled drums. Use of a drum pump is suggested. Keep drum tightly closed when not withdrawing liquid.
<b>Incompatibilities</b>	Oxidizers and alkalis

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## Section 08 - Exposure Controls and Personal Protection

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### Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Not available			

### Engineering Control(s)

<b>Ventilation Requirements</b>	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
<b>Other</b>	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

### Protective Equipment

<b>Eyes/Face</b>	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
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<b>Hand Protection</b>	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
<b>Skin and Body Protection</b>	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.  Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
<b>Respiratory Protection</b>	Wear NIOSH approved respiratory protection, as appropriate.
<b>Thermal Hazards</b>	Not available

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## **Section 09 - Physical and Chemical Properties**

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### **Appearance**

<b>Physical State</b>	Liquid
<b>Colour</b>	Clear
<b>Odour</b>	Not available
<b>Odour Threshold</b>	Not available

### **Property**

<b>pH</b>	2.5-5
<b>Melting Point/Freezing Point</b>	-43°C
<b>Initial Boiling Point and Boiling Range</b>	108°C
<b>Flash Point</b>	>93°C
<b>Evaporation Rate</b>	Not available
<b>Flammability</b>	Not applicable
<b>Upper Flammable Limit</b>	Not available
<b>Lower Flammable Limit</b>	Not available
<b>Vapour Pressure (mm Hg, 20°C)</b>	8.25 x 10 <sup>-4</sup> mmHg @ 25°C
<b>Vapour Density (Air=1)</b>	>1
<b>Relative Density</b>	Not available
<b>Solubility(ies)</b>	Completely miscible in water.
<b>Partition Coefficient: n-octanol/water</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	>160°C
<b>Viscosity</b>	Not available
<b>Explosive Properties</b>	Not available
<b>Specific Gravity (Water=1)</b>	1.37-1.42 g/mL
<b>% Volatiles by Volume</b>	Not available
<b>Formula</b>	(C <sub>4</sub> H <sub>12</sub> O <sub>4</sub> P) <sub>2</sub> SO <sub>4</sub>

Molecular Weight 406.276 g/mol

## Section 10 - Stability and Reactivity

Reactivity	Not available.
Stability	Stable
Possibility of Hazardous Reactions	Not available.
Conditions to Avoid	Not available.
Incompatible Materials	Oxidizers and alkalis
Hazardous Decomposition Products	Thermal decomposition may produce phosphine and formaldehyde. If boiled to dryness it can emit very toxic fumes of phosphorous and sulphur oxides.

## Section 11 - Toxicological Information

### Acute Toxicity

Component	Oral LD50	Dermal LD50	Inhalation LC50
Tetrakis hydroxymethyl phosphonium sulphate	248 mg/kg (rat)	Not available	5.5 mg/L (rat, 4hr)

### Chronic Toxicity – Carcinogenicity

Component	IARC
Tetrakis hydroxymethyl phosphonium sulphate	None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

Skin Corrosion/Irritation	May cause skin irritation
Ingestion	Toxic if ingested
Inhalation	Toxic if inhaled
Serious Eye Damage/Irritation	Causes serious eye damage
Respiratory or Skin Sensitization	Causes skin sensitization
Germ Cell Mutagenicity	Not available.
Reproductive Toxicity	Some animal studies have shown possible effects on unborn offspring.
STOT-Single Exposure	Not available
STOT-Repeated Exposure	Not available
Aspiration Hazard	Not available.
Synergistic Materials	Not available.

## Section 12 – Ecological Information

### Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Tetrakis hydroxymethyl phosphonium sulphate	Not available	LC50(Lepomis macrochirus, 96hr): 97 mg/L	EC50(Daphnia magna, 48hr): 15 mg/L

<b>Biodegradability</b>	Biodegradable.
<b>Bioaccumulation</b>	Not expected to bioaccumulate.
<b>Mobility</b>	Water miscible
<b>Other Adverse Effects</b>	Not available.

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## Section 13 – Disposal Considerations

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<b>Waste From Residues/Unused Products</b>	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
<b>Contaminated Packaging</b>	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

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## Section 14 – Transport Information

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<b>UN Number</b>	UN2922
<b>UN Proper Shipping Name</b>	CORROSIVE LIQUID, TOXIC, N.O.S. Tetrakis hydroxymethyl phosphonium sulphate
<b>Transport Hazard Class(es)</b>	8 (6.1)
<b>Packaging Group</b>	III
<b>Environmental Hazards</b>	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
<b>Special Precautions</b>	Not available
<b>Transport in Bulk</b>	Not available

### TDG

<b>Other</b>	Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.
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**TDG PRODUCT CLASSIFICATION:** This product has been classified on the preparation date specified at section 14 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

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## Section 15 – Regulatory Information

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**NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.**

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## Section 16 – Other Information

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**Preparation Date** October 31, 2018

**Note:** The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

### **Attention: Receiver of the chemical goods / SDS coordinator**

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution<sup>®</sup> initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

**References:**

- 1) CHEMINFO
- 2) eChemPortal
- 3) TOXNET
- 4) Transportation of Dangerous Goods Canada
- 5) HSDB
- 6) ECHA

**ClearTech Industries Inc. - Locations**

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