



# Safety Data Sheet

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## Section 01 - Identification

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<b>Product Identifier</b>	Zinc Sulfate Monohydrate
<b>Other Means of Identification</b>	Zinc salt, white copperas, white citriol, zinc sulfate (1:1), zinc sulfate anhydrous, zinc sulfate heptahydrate, zinc hexahydrate, zinc sulfate monohydrate, zinc sulfate, and zinc vitriol.
<b>Product Use and Restrictions on Use</b>	Supply zinc in animal feeds, fertilizers, and agricultural sprays, Used to control bacteria.
<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</b>	Category 1
<b>Eye Damage</b>	Category 1

### Physical Hazards

No known physical hazards.

### **Danger**

### **Hazards Statements**

H302 Harmful if swallowed.  
H318 Causes serious eye damage.

### **Pictograms**



## Precautionary Statements

P264 Wash thoroughly after handling.

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

P280 Wear protective gloves with eye and face protection.

P301+P312 IF SWALLOWED: Immediately call your local POISON CENTER.

P305+PP351+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 your local poison control centre.

P330 Rinse mouth.

P501 Dispose of contents and container in accordance with local regulatory requirements.

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## Section 03 - Composition / Information on Ingredients

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Chemical Name	CAS Number	Weight %	Unique Identifiers
Zinc Sulfate Monohydrate	7446-19-7	97-100%	

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## Section 04 - First Aid Measures

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<b>Inhalation</b>	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention if difficulties persist.
<b>Skin Contact / Absorption</b>	Remove contaminated clothing. Wash affected area with water for at least 20 minutes. Wash clothing before reuse. Seek medical attention if irritation occurs or persists.
<b>Eye Contact</b>	Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention if irritation persists.
<b>Ingestion</b>	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
<b>Additional Information</b>	Not Available

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## Section 05 - Fire Fighting Measures

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<b>Suitable Extinguishing Media</b>	Use extinguishing media appropriate to surrounding fire.
<b>Unsuitable Extinguishing Media</b>	Not Available.
<b>Specific Hazards Arising From the Chemical</b>	Zinc sulphate can decompose at high temperatures to form toxic oxides, sulfur, and zinc oxide.
<b>Special Protective Equipment and Precautions for Fire-Fighters</b>	Wear NIOSH-approved self-contained breathing apparatus and protective.
<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 spill from entering into soil, ditches, swarers, waterways and or groundwater.
<b>Methods and Materials for Containment and Cleaning Up</b>	Use vacuum equipped with HEPA filter(s). Alternately, dampen spilled material with water. Shovel into clean, dry labelled containers. Cover containers. Flush area with water.

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## Section 07 - Handling and Storage

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<b>Precautions for Safe Handling</b>	Avoid generating dust. 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, well ventilated place. Keep container tightly closed and away from bases and oxidizers.
<b>Incompatibilities</b>	Incompatible with strong bases and oxidizers.

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## Section 08 - Exposure Controls and Personal Protection

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### Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Zinc Sulfate	None Established		

### Engineering Control(s)

**Ventilation Requirements** Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided. Supply sufficient replacement air to make up for air removed by exhaust systems.

**Other** Keep an eye wash fountain and safety shower available and in close proximity to work area.

### Protective Equipment

**Eyes/Face** Chemical safety glasses with side shields should be worn while product is being handled.

**Hand Protection** Impervious gloves are not required other than what is mandated at place of work. Wash contaminated clothing dry thoroughly before reuse.

**Skin and Body Protection** Body suits, aprons, and/or coveralls of chemical resistant material should be worn. Wash contaminated clothing with soap and water, dry thoroughly before reuse.

No special footwear is required other than what is mandated at place of work.

**Respiratory Protection** Always wear an approved dust mask for levels below the TLV. Use NIOSH/MSHA approved respirators for silica bearing dust if airborne concentrations exceed the TLV.

**Thermal Hazards** Not Available.

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## Section 09 - Physical and Chemical Properties

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### Appearance

**Physical State** Solid, powder

**Colour** White

**Odour** Odourless

**Odour Threshold** Not Applicable

### Property

**pH** 4.5-5.5 (aqueous suspension)

<b>Melting Point/Freezing Point</b>	Not Available
<b>Initial Boiling Point and Boiling Range</b>	Not Applicable
<b>Flash Point</b>	Not Applicable
<b>Evaporation Rate</b>	Not Available
<b>Flammability</b>	Not flammable
<b>Upper Flammable Limit</b>	Not Applicable
<b>Lower Flammable Limit</b>	Not Applicable
<b>Vapour Pressure (mm Hg, 20°C)</b>	Not Available
<b>Vapour Density (Air=1)</b>	Not Available
<b>Relative Density</b>	Not Available
<b>Solubility(ies)</b>	Partially soluble in water Insoluble in alcohol
<b>Partition Coefficient: n-octanol/water</b>	Not Available
<b>Auto-ignition Temperature</b>	Not Available
<b>Decomposition Temperature</b>	500°C
<b>Viscosity</b>	Not Available
<b>Explosive Properties</b>	Not Available
<b>Specific Gravity (Water=1)</b>	Not Available
<b>% Volatiles by Volume</b>	Not Available
<b>Formula</b>	ZnSO <sub>4</sub> .H <sub>2</sub> O
<b>Molecular Weight</b>	179.46

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## Section 10 - Stability and Reactivity

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<b>Reactivity</b>	Not Available.
<b>Stability</b>	Product is stable.
<b>Possibility of Hazardous Reactions</b>	None reported.
<b>Conditions to Avoid</b>	No special requirements.
<b>Incompatible Materials</b>	Acids, fluorine, magnesium, hydrogen, sodium N-chloror-4-toluenesulfonamide, isonitriles, ammonium salts.

**Hazardous Decomposition Products**

Corrosive fumes of calcium oxide, carbon monoxide and carbon dioxide are formed in a fire.

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## Section 11 - Toxicological Information

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### Acute Toxicity

Component	Oral LD <sub>50</sub>	Dermal LD <sub>50</sub>	Inhalation LC <sub>50</sub>
Zinc Sulfate	1710 mg/kg (rat) 926 mg/kg (mouse)	>2000 mg/kg (rat)	Not Available

This product has been classified in accordance with the Hazardous Products Regulations using ATE formula documented in the GHS standard.

### Chronic Toxicity – Carcinogenicity

Component	IARC
Zinc Sulfate Monohydrate	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.

<b>Skin Corrosion/Irritation</b>	Non-irritant.
<b>Ingestion</b>	May cause burns. Additional effects may include fever, nausea, vomiting, diarrhea, stomach pain, blood in the stool, inability to urinate, low blood pressure, kidney damage, liver damage, and convulsions.
<b>Inhalation</b>	Inhalation may cause irritation to the nasal membranes and upper respiratory tract. Additional effects may include difficulty breathing, low blood pressure, dizziness, bluish skin color, and lung congestion. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include weak, rapid pulse, hypotension, hemoconcentration, and moist rales.
<b>Serious Eye Damage/Irritation</b>	Can cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Symptoms of exposure may include: a burning sensation, redness, swelling, and blurred vision.
<b>Respiratory or Skin Sensitization</b>	Not Available.
<b>Germ Cell Mutagenicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not known to cause reproductive toxicity.
<b>STOT-Single Exposure</b>	Not Available.
<b>STOT-Repeated Exposure</b>	Not Available
<b>Aspiration Hazard</b>	Not Available.
<b>Synergistic Materials</b>	Not Available.

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## Section 12 – Ecological Information

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### Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Calcium carbonate	Not Available	LC <sub>50</sub> (Lepomis macrochirus (bluegill), 24hr): 23mg/L	LC <sub>50</sub> (Anodonta imbecillis (mussel), 48hr): 355ug/L
<b>Biodegradability</b>	Not Available.		
<b>Bioaccumulation</b>	Not Available.		

Mobility Not Available.

Other Adverse Effects Not Available.

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## Section 13 – Disposal Considerations

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

**Contaminated Packaging** 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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**UN Number** UN 3077

**UN Proper Shipping Name** Zinc Sulfate

**Transport Hazard Class(es)** 9

**Packaging Group** III

**Environmental Hazards** Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.

**Special Precautions** Not Available

**Transport in Bulk** Not Available

### TDG

**Other** 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.

**TDG PRODUCT CLASSIFICATION:** This product has been classified on the preparation date specified at section 14 of this MSDS / 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 MSDS / 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** 2017 June 20

**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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