

## Zinc Sulfate Heptahydrate

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Zinc Sulfate Heptahydrate
<b>Other Means of Identification</b>	White copperas, Sulfuric acid zinc salt (1:1)
<b>Product Code(s)</b>	ZI4220
<b>Product Family</b>	Inorganic Solid
<b>Recommended Use</b>	Laboratory and industrial use.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	1139

### SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

#### Classification

Acute toxicity (Oral) - Category 4; Skin irritation - Category 2; Serious eye damage - Category 1; Specific target organ toxicity (single exposure) - Category 3

#### Label Elements



Signal Word:  
Danger

#### Hazard Statement(s):

Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye damage.  
May cause respiratory irritation.

#### Precautionary Statement(s):

##### Prevention:

Avoid breathing dust/fume/gas/mist/vapours/spray.  
Do not eat, drink or smoke when using this product.  
Wear eye protection/face protection.  
Wear protective gloves.  
Use only outdoors or in a well-ventilated area.

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Avoid release to the environment.

Wash hands and skin thoroughly after handling.

Response:

IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

Rinse mouth.

IF ON SKIN: Wash with plenty of water.

If skin irritation occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

#### **Other Hazards**

Toxic to aquatic life.

### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance:

<b>Chemical Name</b>	<b>CAS No.</b>	<b>%</b>	<b>Other Identifiers</b>	<b>Other Names</b>
Zinc sulfate heptahydrate (1:1:7)	7446-20-0	> 99	White copperas, Sulfuric acid zinc salt (1:1)	

### **SECTION 4. FIRST-AID MEASURES**

#### **First-aid Measures**

##### **Inhalation**

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Seek immediate medical attention.

##### **Skin Contact**

Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. If skin irritation occurs, get medical advice or attention.

##### **Eye Contact**

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor.

##### **Ingestion**

Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Immediately call a Poison Centre or doctor.

##### **First-aid Comments**

Some of the first-aid procedures recommended here require advanced first-aid training. Get medical advice or attention if you feel unwell or are concerned.

#### **Most Important Symptoms and Effects, Acute and Delayed**

For most important symptoms and effects (acute and delayed), see Section 2 (Hazard Identification) and Section 11 (Toxicological Information) of this SDS.

#### **Immediate Medical Attention and Special Treatment**

##### **Special Instructions**

General advice, consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

#### Unsuitable Extinguishing Media

None known.

### Specific Hazards Arising from the Product

Heating increases the release of toxic vapour.

In a fire, the following hazardous materials may be generated: corrosive sulfur oxides; toxic zinc oxides.

### Special Protective Equipment and Precautions for Fire-fighters

Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Move containers from fire area if it can be done without risk. Otherwise, use water in flooding quantities as a spray or fog to keep fire-exposed containers cool and absorb heat. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Notify government occupational health and safety and environmental authorities. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

### Methods and Materials for Containment and Cleaning Up

Small spills or leaks: contain spill with earth, sand, or absorbent material which does not react with spilled material. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Avoid generating vapours or mists. Avoid generating dusts. Only use where there is adequate ventilation. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty. Wash hands thoroughly after handling this material.

### Conditions for Safe Storage

Store in an area that is: cool, ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity). Prevent dust build-up on ALL surfaces. Clean frequently. Avoid dry-sweeping. Use vacuum cleaner equipped with high efficiency filter. Store in the original, labelled, shipping container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Zinc sulfate heptahydrate (1:1:7)	Not established		Not established			

### Appropriate Engineering Controls

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Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

#### Individual Protection Measures

##### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

##### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

##### Respiratory Protection

Wear a NIOSH approved powered air-purifying respirator with an appropriate cartridge.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Colourless crystals.
Odour	Odourless
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	100 °C (212 °F) (melting); 100 °C (212 °F) (freezing)
Initial Boiling Point/Range	> 500 °C (932 °F)
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.97 at 20 °C
Solubility	Soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Solid

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

### Conditions to Avoid

Excess heat. Water, moisture or humidity.

### Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), inorganic salts.

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## Hazardous Decomposition Products

Zinc oxide  
Corrosive sulfur oxides.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Zinc sulfate heptahydrate (1:1:7)	Not available	623 mg/kg (rat)	> 2000 mg/kg (rat)

### Skin Corrosion/Irritation

Causes skin irritation.

### Serious Eye Damage/Irritation

Causes eye damage.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

May cause nose and throat irritation.

#### Ingestion

Harmful.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

### Respiratory and/or Skin Sensitization

Not a skin sensitizer. No information was located for respiratory sensitization.

### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Zinc sulfate heptahydrate (1:1:7)	Not Listed	Not designated	Not Listed	Not Listed

### Reproductive Toxicity

#### Development of Offspring

Not known to harm the unborn child.

#### Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

#### Effects on or via Lactation

No information was located.

### Germ Cell Mutagenicity

No information was located.

### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Bury in a licensed landfill according to federal, provincial/state, and local regulations.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
IATA (Air)	UN3077	Environmentally hazardous substance solid, n.o.s. (ZINC SULFATE)	9	III
US DOT	UN3077	Environmentally hazardous substance solid, n.o.s. (ZINC SULFATE)	9	III

**Special Precautions** Not applicable

### Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

##### Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

#### USA

##### Toxic Substances Control Act (TSCA) Section 8(b)

Not listed on the TSCA Inventory.

## SECTION 16. OTHER INFORMATION

**SDS Prepared By** Alphachem Limited

**Phone No.** (905)-821-2995

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**References** CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

**Disclaimer** This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

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