

# Safety Data Sheet


Number: <b>MSDS-0020-EN</b>	Version number: <b>V.08</b>	Date of issue: <b>August 25, 2020</b>
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## Zinc Sulfate Heptahydrate

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product name:</b>	Zinc Sulfate Heptahydrate
<b>Other names or synonyms:</b>	Zinc sulphate heptahydrate; Sulfuric acid, zinc salt, heptahydrate; Zinc vitriol, heptahydrate; White vitriol, heptahydrate
<b>Recommended uses:</b>	Fertilizers, intermediates, laboratory chemicals, lubricants and lubricant additives, fillers, surface active agents, mining floatation agents, etc.
<b>Restrictions on use:</b>	Please consult your regulatory authorities for any restrictions on use of this product.
<b>Supplier name:</b>	KIRNS CHEMICAL LTD.
<b>Address:</b>	2208, C2 Yongsheng Commercial Plaza, 222 East Laodong Road, Yuhua District, Changsha, Hunan, China.
<b>Telephone number:</b>	+86 (731) 8867-8000
<b>Fax number:</b>	+86 (731) 8867-7000
<b>Email:</b>	kirns@kirns.com
<b>Emergency phone number:</b>	+86 (731) 8867-8000 (ext. 802 or 803) (working hour, Monday to Friday) The number stated here is only for domestic emergency in China. For emergencies outside China, please contact the national emergency phone numbers in your own country or ask your local supplier for support.
<b>National emergency Tel. :</b>	Cyprus: 1401 (National emergency consultation tel. for chemical accidents)

### SECTION 2: HAZARD IDENTIFICATION

<b>Hazard classification:</b>	Acute toxicity, Category 4, Oral, H302 Causes serious eye damage, Category 1, H318 Acute aquatic toxicity, Category 1, H400 Chronic aquatic toxicity, Category 1, H410
<b>GHS Pictograms:</b>	
<b>Signal word:</b>	Danger
<b>Hazard statements:</b>	H302 Harmful if swallowed. H318 Causes serious eye damage. H410 Very toxic to aquatic life with long lasting effects.

<b>Precautionary statements:</b>	<b>PREVENTION:</b> P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P280 Wear eye-protection/face protection.
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**RESPONSE:**  
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P330 Rinse mouth.  
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 CENTER or doctor/physician.  
P391 Collect spillage.

**STORAGE:** Not applicable

#### DISPOSAL:

P501 Dispose of contents/container in accordance with all local, regional, national and international regulations.

**Other Hazards:** Not classified as other hazards.

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation:	<input checked="" type="checkbox"/> Substance
Ingredient:	Zinc Sulfate Heptahydrate
Formula:	ZnSO <sub>4</sub> ·7H <sub>2</sub> O
CAS number:	7446-20-0 (heptahydrate); 7733-02-0 (anhydrous)
EC number:	231-793-3

### SECTION 4: FIRST-AID MEASURES

Skin:	Take off contaminated clothing, flush skin with plenty of water. Seek medical attention if symptoms persist.
Eyes:	Flush eyes with plenty of water for at least 15 minutes. Seek medical attention.
Ingestion:	DO NOT induce vomiting. Immediately rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Seek medical attention.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if discomfort continues.
Symptoms and effects:	SKIN: Redness, irritant. EYE: Redness, pain. INHALATION: Coughing, shortness of breath. INGESTION: Abdominal pain, vomiting, nausea, stomach pain.
Advice to doctor:	No special antidote. Treat symptomatically.

### SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:	This product does not burn or support combustion. Use extinguishing media appropriate for surrounding fire.
Hazards:	This product is non-flammable but may form toxic oxides, sulfur and zinc oxide as well as water vapor if heated to decompose.
Advice for fire-fighters:	Wear a self-contained breathing apparatus with a full protective clothing in case of fire.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear protective equipment to prevent skin and eye contamination and inhalation of dust.
Environmental precautions:	Prevent entry into sewers or streams and other water bodies.
Disposal methods:	Use appropriate tools to put the spilled material into a sealed container and hold for reuse or later disposal.

### SECTION 7: HANDLING AND STORAGE

Handling:	Avoid breathing dust. Avoid contacting skin, eyes and clothing. Use with adequate ventilation. No smoking, eating and drinking water at workplace. Avoid prolonged or repeated exposure.
Storage:	Store in a cool and dry place, keep away from moisture and avoid physical damages. Keep container closed when not in use.
Precautions:	Do not contaminate food by storage or disposal. Do not contaminate water.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:	- CHINA GBZ 2.1-2007: No data for Zinc Sulfate - OSHA PEL: not available. - ACGIH TLV: not available.
Engineering controls:	Use adequate exhaust ventilation to keep airborne concentrations below the allowable exposure limits.
Respiratory protection:	Dustproof respirators when dusts are generated.
Hand protection:	Protective gloves, leather, rubber or plastic.

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<b>Eye protection:</b>	Chemical goggles or safety glasses.
<b>Skin and body protection:</b>	Resistant protective clothing.
<b>Hygiene precautions:</b>	No smoking, eating and drinking water at workplace. Washing hands before eating. Taking bath after work.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Solid white crystal or granule.
<b>Odor:</b>	Odorless
<b>Odor Threshold:</b>	Not applicable
<b>pH value:</b>	3.0-6.0
<b>Melting/freezing point:</b>	Not available.
<b>Boiling point:</b>	Not relevant; the sample decomposes before boiling.
<b>Flash point:</b>	Not applicable
<b>Evaporation rate:</b>	Not applicable to solids.
<b>Flammability:</b>	No flammability, explosiveness or auto-inflammability properties.
<b>Upper/lower flammability or explosive limits:</b>	Not applicable
<b>Vapor pressure:</b>	Endpoint is not relevant.
<b>Vapor density:</b>	Not applicable
<b>Relative density:</b>	1.98 g/cm <sup>3</sup>
<b>Solubility:</b>	Readily soluble in water.
<b>Partition coefficient : (n-octanol/water)</b>	Not applicable to metal compounds.
<b>Auto-ignition temperature:</b>	No flammability, explosiveness or auto-inflammability properties.
<b>Decomposition temperature:</b>	Not applicable
<b>Viscosity:</b>	Not relevant

### SECTION 10: STABILITY AND REACTIVITY

<b>Reactivity:</b>	Dangerous reactions are not expected under ambient and anticipated temperature and handling conditions of temperature and pressure.
<b>Chemical stability:</b>	Stable under ambient and anticipated temperature and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions:</b>	No polymerization will occur. Possible violent reactions with strong oxidizing agents.
<b>Conditions to avoid:</b>	High temperatures, moisture.
<b>Incompatible materials:</b>	Strong oxidizing agents, strong acids, hydrogen peroxides.
<b>Hazardous decomposition products:</b>	Sulfur oxides, oxides of zinc.

### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Acute toxicity:</b>	LD50 (oral-rat): 920 to 4,725 mg/kg
<b>Skin irritation/corrosion:</b>	May cause skin irritation.
<b>Eye damage/irritation:</b>	Causes serious eye damage.
<b>Respiratory or skin sensitization:</b>	No sensitizing effects known.
<b>Germ cell mutagenicity:</b>	No biologically relevant genotoxic activity.
<b>Carcinogenicity:</b>	No experimental or epidemiological evidence exists to justify classification of zinc compounds for carcinogenic activity.
<b>Production toxicity:</b>	No experimental or epidemiological evidence exists to justify classification of zinc compounds

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<b>STOT-single exposure:</b>	for reproductive or developmental toxicity. No experimental or epidemiological sufficient evidence for specific target organ toxicity (single exposure).
<b>STOT-repeated exposure:</b>	No experimental or epidemiological sufficient evidence for specific target organ toxicity (repeated exposure).
<b>Aspiration hazard:</b>	Not available.
<b>Routes of entry:</b>	Ingestion, eye contact.
<b>Chronic exposure:</b>	It may cause harmful effects on respiratory system, digestive system and circulatory system. May cause minor, reversible health effects on the lungs. Long-term exposures to high concentrations of dusts may increase mucous flow in the nose and airways, anemia, swelling or other skin eruptions.
<b>Other information:</b>	No more information available.

### SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity:</b>	Very toxic to aquatic life with long lasting effects. Don't allow undiluted product or large quantities to penetrate into ground water, water bodies or sewage system.
<b>Persistence and biodegradability:</b>	Not Applicable.
<b>Bio-accumulative potential:</b>	Zinc and zinc compounds do not bio-accumulate or bio-magnify.
<b>Mobility in soils:</b>	No information found.
<b>Results of PBT and vPvB assessment:</b>	Not relevant to inorganic substances.
<b>Other adverse effects:</b>	No more information available.

### SECTION 13: DISPOSAL CONSIDERATIONS

<b>Methods of disposal:</b>	Dispose of in accordance with all government regulations. Avoid release to the environment.
<b>Contaminated packaging:</b>	Dispose of the packaging in accordance with all government regulations.

### SECTION 14: TRANSPORT INFORMATION

<b>IMDG:</b>	<b>Regulated.</b> UN No.: <b>3077</b> Hazard Class: <b>9</b> Packing Group: <b>III</b> Marine Pollutant: <b>Yes</b> Proper Shipping name: <b>Environmentally Hazardous Substance, Solid, N.O.S. (Zinc Sulfate)</b> Pictograms:
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<b>ADR/RID:</b>	<b>Regulated.</b> UN No.: <b>3077</b> Hazard Class: <b>9</b> Packing Group: <b>III</b> Proper Shipping name: <b>Environmentally Hazardous Substance, Solid, N.O.S. (Zinc Sulfate)</b>
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<b>ITAT:</b>	<b>Regulated.</b> UN No.: <b>3077</b> Hazard Class: <b>9</b>
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Packing Group: **III**

Proper Shipping name: **Environmentally Hazardous Substance, Solid, N.O.S.** (Zinc Sulfate)

### DOT (U.S.):

This product is not DOT regulated in domestic (USA ground) transportation in package sizes less than 1,000lbs (454kg). The DOT transportation information below is for shipments exceeding 1,000lbs (454 kg) in single package, container, truck, or trailer.

DOT Shipping Name: **Environmentally Hazardous Substance, Solid, N.O.S.** (Zinc Sulfate)

DOT Hazardous Class: **9- Miscellaneous hazardous material**

DOT UN Number: **UN3077**

DOT Packing Group: **III**

DOT Label Code: **9**

DOT Reportable Quantity (lbs): **1,000 lbs (454kg)**

**Notes:** DOT Shipping Notes: 40 CFR 172.504(f)(9) For Class 9, a CLASS 9 placard is not required for domestic (USA ground) transportation, however shipments with packaging sizes exceeding the Reportable Quantity (RQ) or bulk packaging must be marked with the appropriate identification number on a CLASS 9 placard, an orange panel, or a white square-on-point display configuration as required. Since the Class 9 placard is not required (although it may be used) the hazardous material endorsement is also not required on a Commercial Drivers License.

### TDG (Canada):

**Only regulated for TDG under class 9 if intended for disposal. Marine Pollutant designation is applicable only if shipped over water.**

TDG Shipping Name: **Environmentally Hazardous Substance, Solid, N.O.S.** (Zinc Sulfate)

Hazard Class: **9**

UN Number: **UN3077**

Packing Group: **III**

## SECTION 15: REGULATORY INFORMATION

### China:

GB 12268-2005 List of Dangerous goods: **Not regulated.**

Catalog of Hazardous Chemicals (2015): **Not regulated.**

List of Severely Restricted Toxic Chemicals for Export and Import: **Not regulated.**

GB 18218-2009 Identification of major hazard installations for dangerous chemicals: **Not regulated.**

China's inventory of existing chemical substances (IECSC) 2013: **Listed**

### Other countries:

Please refer to any applicable national regulations on the hazard and safety of this product.

## SECTION 16: ADDITIONAL INFORMATION

### Training advice:

Provide adequate information, instructions and training for operators.

### Revision information:

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### Disclaimer:

The information provided herein is based on our current knowledge and data obtained from other sources. While the information is believed to be accurate, Kims Chemical Ltd. makes no representations as to its comprehensiveness and/or accuracy. Users must exercise their independent judgment in determining its appropriateness for a particular purpose and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

**End of SDS**

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