



1. PRODUCT AND COMPANY IDENTIFICATION**1.1 Product identifiers**

Product name : Zinc Sulfate monohydrate FINE & GRANULAR

Recommended use: : General Fertilizer

CAS-No. : 7446-19-7

1.2 Details of the supplier of the safety data sheetCompany : Marion Ag Service Inc.
7746 St. Paul Hwy
St Paul, Oregon 97137
USA

Telephone : +1 503-633-4281

Fax : +1 503-633-4280

1.3 Emergency telephone number

Emergency Phone # : INIFOTRAC 1-800-535-5053

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**Acute toxicity, Oral (Category 4), H302
Serious eye damage (Category 1), H318
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)

H302 : Harmful if swallowed.
H318 : Causes serious eye damage.
H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P264 : Wash skin thoroughly after handling.
P270 : Do not eat, drink or smoke when using this
product. P273 : Avoid release to the environment.
P280 : Wear protective gloves/ eye protection/ face protection.
P301 + P312 : IF SWALLOWED: Call a POISON CENTER or doctor/ physician if
you feel unwell.
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.
P330 : Rinse mouth.
P391 : Collect spillage.
P501 : Dispose of contents/ container to an approved waste disposal plant.**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none**



3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula	: ZnO ₄
Molecular weight	: 179.47 g/mol
CAS-No.	: 7446-19-7
EC-No.	: 231-793-3
Index-No.	: 030-006-00-9

Hazardous components

Component	Classification	Concentration
Zinc Sulphate Monohydrate	Acute Tox. 4; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H318, H410	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of 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

Remove from exposed area to fresh air immediately. If breathing is difficult, oxygen may be administered by a qualified operator. Keep person warm and at rest. Consult a physician for irritation or any other symptom.

In case of skin contact

Remove contaminated clothing and shoes. Wash affected area off with soap or mild detergent and rinse with plenty of water. Consult a physician for irritation or any other symptom.

In case of eye contact

Flush eyes immediately with large amounts of water or normal saline solution occasionally lifting upper and lower lids until no evidence of product remains (approximately 10-15 minutes). Cover with sterile bandages. Call a physician if irritation persists.

If swallowed

Dilute the product immediately with large amounts of water or milk. **Do Not** Induce vomiting unless directed to do so by medical personal. Never give anything by mouth to an unconscious person. If large quantities of this product are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Note to Physicians: The decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by a qualified medical personnel. The antidote for poisoning from zinc salts is calcium discodium edentate (oral or IV). Dreisbach, Handbook of Poisoning, 12th Edition.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Sulphur oxides, Zinc/zinc oxides

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Dike area to prevent runoff and contamination of water sources

5.4 Further information

No data available



6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 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.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Personal Protection - OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



Wear overalls, chemical goggles and impervious gloves. If dust exists, wear dust mask/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).



Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).

Control of environmental exposure

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

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Description: White or transparent crystalline odorless powder, free-flowing fine granules.

Molecular formula: ZnSo4 (Zinc Sulfate)

Molecular Weight: 179.46

Melting Point: Decomposes above 500 degrees C (932 degrees F)

Boiling Point: Not applicable

Vapor Pressure: Not applicable

Water Solubility: 50% by weight

Specific Gravity: 3.28

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal temperatures and pressures

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

Has not been reported to occur under normal temperatures and pressures but may occur in fire conditions.

10.4 Conditions to avoid

Avoid contact with strong oxidizers and /or excessive heat. Avoid moisture.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:

Swallowing can result in nausea, vomiting, diarrhea, and gastrointestinal irritation. Symptoms of swallowing large amounts of soluble iron compounds may be delayed several hours and can include epigastric pain, vomiting blood and circulatory failure.



Eye contact: An eye irritant.

Skin contact: Contact with skin will result in irritation.

Inhalation: Breathing in dust may result in respiratory irritation.

Long Term Effects:

Evidence indicates that repeated or prolonged exposure to this chemical could result in effects on the liver.

Toxicological Data:

Acute Toxicity:

LD50: 1520 mg/kg, oral, rat

LD50: 1480 mg/kg, oral, mouse

Local Effects: Corrosive to eyes, ingestion, skin irritant, mucous membranes.

Eyes: dose-420 ug: moderate (rabbit)

Inhalation: Inhalation of dust may cause irritation of the respiratory tract with sore throat.

Ingestion: In patients not in shock or coma, induce emesis with syrup of ipecac if vomiting has not occurred. . Follow with gastric lavage using Deferoxamine, 2 grams in 1 liter of water which contains sodium bicarbonate 20 gm/L. Leave 10 grams of deferoxamine in 50 ml of 5% sodium bicarbonate in the stomach. Maintain airway, blood pressure, and respiration

Delayed/Chronic:

Chronic Exposure: Reproductive effects have been reported in animals.

Carcinogenicity

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Zinc oxide dust or fume can irritate the respiratory tract. Prolonged skin contact can produce a severe dermatitis called oxide pox. Exposure to high levels of dust or fume can cause metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain, and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to the skin, to the best of our knowledge; the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Acute Aquatic Toxicity:

LC50 rainbow trout 4.76 MG/L/48 HR, hard water / continuous flow conditions

LC50 rainbow trout 4.6 ppm / 96 hs / fresh water / conditions of bioassay not specified.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life



13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate monohydrate)

Marine pollutant:yes

IATA

UN number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Zinc sulphate monohydrate)

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packaging and combination packaging containing inner packaging with Dangerous Goods > 5L for liquids or > 5kg for solids.

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Zinc sulphate monohydrate	7446-19-7	1993-04-24

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Zinc sulphate monohydrate	7446-19-7	1993-04-24

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Zinc sulphate monohydrate	7446-19-7	1993-04-24

New Jersey Right To Know Components

	CAS-No.	Revision Date
Zinc sulphate monohydrate	7446-19-7	1993-04-24

**California Proposition 65:**

This product does contain chemicals known to State of California to cause cancer, birth defects, or other reproductive harm.

16. OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Dam.	Serious eye damage
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

HMIS Rating

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

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

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Further information

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Marion Ag Service Inc. | 7749 St Paul Hwy / Saint Paul, OR 97137