

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **Zinc Sulphate Monhydrate Maxi Granular**  
 Synonyms : Hydrated zinc sulphate, zinc sulphate monohydrate

Product Uses : For use in fertilizer applications..  
 Product Uses Advised Against : Not intended for human or animal consumption

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## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### Target Organs

Kidney, Pancreas., Liver, Lungs

#### WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects  
 Moderate eye irritant

#### GHS Classification

Acute toxicity, Oral (Category 4)  
 Serious eye damage (Category 1)  
 Acute aquatic toxicity (Category 1)

#### GHS Label elements, including precautionary statements

Pictogram



Signal word

DANGER

Hazard statement(s)

H302 Harmful if swallowed.  
 H318 Causes serious eye damage.  
 H400 Very toxic to aquatic life.

Precautionary statement(s)

P273 Avoid release to the environment.

P280  
P305 + P351 + P338  
P501

Wear protective gloves/ eye protection/ face protection.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Dispose of waste in an approved facility according to local authorities.

#### HMIS Classification

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

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : ZnSO<sub>4</sub> · H<sub>2</sub>O  
Molecular Weight : 179.47 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Zinc sulphate monohydrate</b>			
7446-19-7	231-793-3	030-006-00-9	<=98%

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### 4. 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

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Removed contaminated clothing. Wash off with soap and plenty of water. Consult a physician if symptoms persist.

#### In case of eye contact

Remove contact lenses if applicable. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### Most important effects acute or delayed

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. See a physician.

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### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

**Suitable extinguishing media**

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

**Unsuitable extinguishing media**

No data available.

**Special protective equipment for firefighters**

Wear self-contained breathing apparatus for fire-fighting if necessary.

**Hazardous combustion products**

Oxides of Sulfur and Zinc.

**Explosion data - sensitivity to mechanical impact**

No data available.

**Explosion data - sensitivity to static discharge**

No data available.

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**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

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

**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.

**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.

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**7. HANDLING AND STORAGE****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.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place. Product is hygroscopic, keep in a dry place. Close any opened containers very carefully and tightly and store the bag upright to avoid spills or leaks.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Personal protective equipment****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).

**Hand 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.

**Eye 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 and 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.

**Hygiene measures**

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

**Specific engineering controls**

Ensure adequate ventilation in work area, such as a fume hood or other localized exhaust system.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form granules

Colour beige

**Safety data**

pH 4 - 7

Melting point/freezing point 680 C (1360 F)

Boiling point no data available

Flash point not applicable

Ignition temperature no data available

Auto-ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Vapour pressure no data available

Density 3.28 g/cm<sup>3</sup> (anhydrous)

Water solubility soluble in water

Partition coefficient: n-octanol/water no data available

Relative vapour density no data available

Odour none

Odour Threshold no data available

Evaporation rate no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Possible violent reactions with oxidizers. No polymerization is expected to occur.

### Conditions to avoid

Avoid moisture, heat including direct sunlight, flames and other sources of ignition.

### Materials to avoid

Strong oxidizing agents, strong reducing agents, hydrogen peroxides.

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Zinc/zinc oxides

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 (oral, rat) = 574 to 2949 mg/kg

#### Inhalation LC50

no data available

#### Dermal LD50

LD50 (dermal,rat): > 2000 mg/kg Rat

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

May cause temporary skin irritation from short contact. Prolonged exposure to skin may cause severe dermatitis. See below for description of most important signs and symptoms of exposure.

### Serious eye damage/eye irritation

May cause serious eye damage from solutions greater than 1%. No data available.

### Ingestion

Zinc Sulfate ingestion of large doses can cause anemia and stomach symptoms. It is very astringent, and when ingested in excessive quantities, can irritate the stomach, resulting in abdominal pain, nausea, diarrhea and spontaneous vomiting.

### Inhalation

Generation of dust can cause temporary respiratory irritation that includes coughing, sore throat, sneezing.

### Respiratory or skin sensitisation

In the event of thermal decomposition, high amounts of zinc oxide fume inhalation can lead to metal fume fever within 3 to 10 hours of exposure, and include immediate dryness and irritation of the throat, tightness of the chest, and coughing which may later be followed by flu-like symptoms of fever, malaise, perspiration, frontal headache, muscle cramps, low back pain, occasionally blurred vision, nausea, and vomiting. The symptoms are temporary and generally disappear, without medical intervention, within 24 to 48 hours of onset.

**Germ cell mutagenicity**

no data available

**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.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard** no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

**Signs and Symptoms of Exposure**

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.

**Chronic Exposure**

May have long term use effects on respiratory system, gastrointestinal system, and circulatory system.  
No data available.

**Synergistic effects**

no data available

**Additional Information**

RTECS: Not available

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## 12. ECOLOGICAL INFORMATION

### Toxicity

Fathead minnow 96hr LC50: 780 ug/L (0.780 mg/L) (ph=6-6.5), • 330 gg/L (0.330 mg/L) (ph=7-7.5); 500 gg/L (0.5 mg/L) (ph=8-8.5) (anhydrous) (echa05)  
Acute aquatic Cat 1

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

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## 13. DISPOSAL CONSIDERATIONS

### 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.

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## 14. TRANSPORT INFORMATION

TDG UN3077

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate monohydrate),

Class 9, Packing Group III

Marine Pollutant

Supplementary Information:

Marine pollutants are exempted from classification if they are transported by road or rail only, as given in Section 1.45.1 of the Transportation of Dangerous Goods laws.

Documentation must always match classifications on the packaging.

IMDG UN3077

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate monohydrate),

Class 9, Packing Group III

Marine Pollutant

ICAO/IATA UN3077  
ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID,  
N.O.S. (Zinc sulphate monohydrate)  
Class 9, Packing Group III  
Marine Pollutant

49 CFR/DOT UN3077  
ENVIRONMENTALLY HAZARDOUS  
SUBSTANCE  
SOLID, N.O.S. (Zinc sulphate monohydrate)  
Class 9, Packing Group III  
Marine Pollutant  
Not regulated except— RQ (Reportable Quantity) > 454 kg (1000.9 lb)

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## 15. REGULATORY INFORMATION

### WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Moderate eye irritant

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

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## 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pestell Minerals & Ingredients and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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