

SAFETY DATA SHEET

Section 1: Identification

Product name: Zinc sulphate monohydrate
 Product use: For laboratory research purposes.
 Supplier: Trace Sciences International
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Section 2: Hazard(s) Identification

2.1 GHS Classification

GHS Classification

Acute toxicity, Oral (Category 4), H302
 Serious eye damage (Category 1), H318
 Short-term (acute) aquatic hazard (Category 1), H400
 Long-term (chronic) aquatic hazard (Category 1), H410

2.2 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 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 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P391 Collect spillage.
 P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3: Composition/ Information on Ingredients

Formula : ZnSO₄ · H₂O
 Molecular Weight : 179.47 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Zinc sulphate monohydrate	7446-19-7	231-793-3	030-006-00-9	<=100%

Section 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 person out of dangerous area if safe to do so.

If inhaled

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

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5: Fire-Fighting Measures

5.1 Conditions of flammability

Not flammable or combustible.

5.2 Suitable extinguishing media

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

5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Sulphur oxides, zinc/zinc oxides

5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Further information

No data available

Section 6: Accidental Release Measures

6.1 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.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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.

Section 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.

7.2 Conditions for safe storage

Hygroscopic.

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

Section 8: Exposure Controls/Personal Protection

8.1 Components with workplace control parameters

No data available

8.2 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

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, flame retardant antistatic protective clothing. 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

Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9: Physical and Chemical Properties

Appearance

Form	Powder
Colour	White

Safety Data

pH	No data available
Melting point/freezing point	No data available
Boiling point	No data available

Flash point	Not applicable
Flammability (solid, gas)	No data available
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	3.2 g/cm ³ at 20 °C (68 °F)
Water solubility	No data available
Partition coefficient: n-octanol/water	Not applicable for inorganic substances
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

Section 10: Stability and Reactivity

10.1 Chemical stability

Stable under recommended storage conditions

10.2 Possibility of hazardous reactions

No data available

10.3 Conditions to avoid

No data available

10.4 Materials to avoid

Strong oxidizing agents

10.5 Hazardous decomposition products

See section 5

Section 11: Toxicological Information

Acute toxicity

Oral

LD50 Oral - Mouse - male - 926 mg/kg
(OECD Test Guideline 401)

The value is given in analogy to the following substances: Zinc sulphate

Inhalation

No data available

Dermal

LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

The value is given in analogy to the following substances: Zinc sulphate

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

The value is given in analogy to the following substances: Zinc sulphate

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

The value is given in analogy to the following substances: Zinc sulphate

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

Remarks: (ECHA)

The value is given in analogy to the following substances: Zinc sulphate

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

The value is given in analogy to the following substances: Zinc sulphate

Test Type: In vivo micronucleus test

Species: Mouse

Cell type: Red blood cells (erythrocytes)

Application Route: Intraperitoneal injection

Result: negative

Remarks: (ECHA)

The value is given in analogy to the following substances: Zinc sulphate

Carcinogenicity

No data available

Reproductive toxicity

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

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.

Additional Information

RTECS: Not available

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish	Static test LC50 - Pimephales promelas (fathead minnow) - 0.330 mg/l - 96 h Remarks: (ECHA) The value is given in analogy to the following substances: Zinc sulphate
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - 1.4 mg/l - 48 h (OECD Test Guideline 202) The value is given in analogy to the following substances: Zinc sulphate
Toxicity to algae	EC50 - Chlorella vulgaris (Fresh water algae) - 64.8 mg/l - 72 h Remarks: (IUCLID) The value is given in analogy to the following substances: Zinc sulphate
Toxicity to bacteria	Static test EC50 - activated sludge - 5.2 mg/l - 3 h (OECD Test Guideline 209) The value is given in analogy to the following substances: Zinc sulphate
Toxicity to fish (Chronic toxicity)	Flow-through test NOEC - Salmo trutta - 0.056 mg/l - 116 d (OECD Test Guideline 210) The value is given in analogy to the following substances: Zinc sulphate
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Semi-static test NOEC - Shrimp - 0.0318 mg/l - 7 d (US-EPA) The value is given in analogy to the following substances: Zinc sulphate

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Channa punctata - 45 d at 27 °C (Zinc (II) sulfate heptahydrate)
Bioconcentration factor (BCF): 0.4

12.4 Mobility in soil

No data available

12.5 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.

Section 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.

Section 14: Transport Information

IATA

UN number: UN3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Zinc sulphate)

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

Section 16: Other Information

Further information

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Date Prepared: February 10, 2025