



Safety Data Sheet

Date of Issue: 29.10.2024

Date of Expiry: 29.10.2029

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : ECP Limited
Address : PO Box 34125, Birkenhead, Auckland 0746
Telephone : +64 9 480 4386
Facsimile : +64 9 480 4385
Emergency phone number : 0800 243 622 (24 hours)

Product Name	Zinc Sulfate Heptahydrate
Product Code	55401
CAS No.	7446-20-0

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Acute toxicity, Oral (Category 4), H302

Serious eye damage/eye irritation (Category 1), H318

Hazardous to the aquatic environment - acute hazard (Category 1), H400

Hazardous to the aquatic environment - chronic hazard (Category 1), H410

2.2 GHS Label elements, including precautionary statements

Pictogram



DANGER

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)

Prevention

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear eye protection/ face protection.

Response

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. Immediately call a

POISON CENTER/ doctor. P391 Collect spillage.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

3: Composition/information on ingredients

3.1 Substances

Formula	:	O4SZn · 7H2O
Molecular weight	:	287.56 g/mol
CAS-No.	:	7446-20-0
EC-No.	:	231-793-3
Index-No.	:	030-006-00-9

4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Sulfur oxides

Zinc/zinc oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Hygroscopic.

Storage class

Storage class (TRGS 510): 13: Non Combustible Solids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

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 or 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.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state	:	powder, crystalline
b) Color	:	white
c) Odor	:	No data available
d) Melting point/freezing point	:	
Melting point	:	100 °C
e) Initial boiling point and boiling range	:	No data available
f) Flammability (solid, gas)	:	The product is not flammable.
g) Upper/lower flammability /explosive limits	:	No data available
h) Flash point	:	Not applicable
i) Autoignition temperature	:	No data available
j) Decomposition temperature	:	No data available
k) pH	:	No data available
l) Viscosity	:	
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
m) Water solubility	:	No data available
n) Partition coefficient: n-octanol/water	:	Not applicable for inorganic substances
o) Vapor pressure	:	No data available
p) Density	:	1.97 g/cm ³
Relative density	:	No data available
q) Relative vapor density	:	No data available
r) Particle characteristics	:	No data available
s) Explosive properties	:	No data available
t) Oxidizing properties	:	none

10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:
Strong oxidizing agents

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Metals

10.6 Hazardous decomposition products

In the event of fire: see section 5

11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Mouse - male - 926 mg/kg

(OECD Test Guideline 401)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

Remarks: (ECHA)

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: In vivo micronucleus test

Species: Mouse

Cell type: Red blood cells (erythrocytes)

Application Route: Intraperitoneal injection

Result: negative

Remarks: (ECHA)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

RTECS: ZH5300000

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., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, airway resistance, Cardiovascular effects., pulmonary edema, congestive heart failure To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12: Ecological information

12.1 Toxicity

Toxicity to fish

static test LC50 - Pimephales promelas (fathead minnow) - 0.330 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 1.4 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to algae

EC50 - Chlorella vulgaris (Fresh water algae) - 64.8 mg/l - 72 h

Remarks: (IUCLID)

Toxicity to bacteria static test EC50 - activated sludge - 5.2 mg/l - 3 h

(OECD Test Guideline 209)

Toxicity to fish(Chronic toxicity)

flow-through test NOEC - Salmo trutta - 0.056 mg/l - 116 d

(OECD Test Guideline 210)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)

semi-static test NOEC - Shrimp - 0.0318 mg/l - 7 d

(US-EPA)

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulation Channa punctata - 45 d

at 27 °C(Zinc sulfate heptahydrate)

Bioconcentration factor (BCF): 0.4

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 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

13: Disposal considerations

13.1 Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	3077	3077	3077
14.2	UN Proper Shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate heptahydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate heptahydrate)	Environmentally hazardous substance, solid, n.o.s. (Zinc sulfate heptahydrate)
14.3	Transport Hazard Class	9	9	9
14.4	Packaging group	III	III	III
14.5	Environmental Hazards	Yes	Yes	Yes
14.6	Special precautions for user	none		
14.7	Incompatible materials	Metals		

Other regulations

Hazchem Code : ZZ

15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

HSNO Approval Code:

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits

Group Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied,

with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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