

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product Name : 2.0 M Zinc sulfate heptahydrate  
Product Number : HR2-641  
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.  
CAS Number : 7446-20-0

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances.

**1.3 Details of the supplier of the Safety Data Sheet**

Company : Hampton Research  
34 Journey  
Aliso Viejo, CA 92656-3317  
United States  
Telephone : 949 425 1321  
Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.  
Fax : 949 425 1611  
Fax Technical Support is available 24 hours a day.  
e-mail : tech@hrmail.com  
e-mail Technical Support is available 24 hours a day.

**1.4 Emergency telephone number**

Emergency phone : 949 425 1321  
For **CHEMTREC** Assistance : 800 424 9300  
For **CHEMTREC** Assistance : 703 527 3887 (International)

**SECTION 2: Hazards Identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

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

## (CONTINUED) - SECTION 2: Hazards Identification

### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Harmful if swallowed. Risk of serious damage to eyes. Very toxic to aquatic organisms, may cause longterm adverse effects in the aquatic environment.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word : 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)

P273 : Avoid release to the environment.

P280 : Wear protective gloves/ eye protection/ face protection.

P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Supplemental Hazard Statements : none

#### According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrase(s)

R22 : Harmful if swallowed.

R41 : Risk of serious damage to eyes.

R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S22 : Do not breathe dust.

S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S39 : Wear eye/face protection.

S46 : If swallowed, seek medical advice immediately and show this container or label.

S60 : This material and its container must be disposed of as hazardous waste.

S61 : Avoid release to the environment. Refer to special instructions/ Safety data sheets.

## (CONTINUED) - SECTION 2: Hazards Identification

### 2.3 Other hazards - none

## SECTION 3: Composition/Information on Ingredients

### 3.1 Substances

<b>Synonym</b>	: none
<b>Formula</b>	: ZnSO <sub>4</sub> · 7H <sub>2</sub> O
<b>Molecular Weight</b>	: 287.56
<b>CAS Number</b>	: 7446-20-0
<b>EC Number</b>	: 231-793-3

RTECS	Merck	Beilstein	SARA	MDL #	PubChem Substance ID
ZH5300000	14,10159	N/A	No	MFCD00149894	24859031

Component	Concentration
<b>Zinc sulfate heptahydrate</b>	
CAS-No. 7446-20-0	-
EC-No. 231-793-3	
Index-No. 030-006-00-9	

## 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.

#### If inhaled

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

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes as a precaution and consult a physician.

#### If swallowed

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

### 4.2 Most important symptoms and effects, both acute and 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., 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. The most important known symptoms and effects are described in the labeling (see Section 2.2) and/or in Section 11.

## SECTION 4: First Aid Measures

- 4.3 Indication of any immediate medical attention and special treatment needed**  
no data available

## SECTION 5: Fire Fighting 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, Borane/boron oxides, Zinc/zinc oxides
- 5.3 Advice for firefighters**  
Wear self contained breathing apparatus for fire fighting if necessary.
- 5.4 Further Information**  
The product itself does not burn.

## SECTION 6: Accidental Release Measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.
- 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.

## SECTION 7: Handling and Storage

- 7.1 Personal Precautions**  
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.  
Normal measures for preventive fire protection.  
For precautions see section 2.2. Normal measures for preventive fire protection.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Hygroscopic.
- 7.3 Specific end use(s)**  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

#### Components with workplace control parameters

### 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

##### 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 480 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

##### Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 30 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

##### Body Protection

Complete suit protecting against chemicals, 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.

##### 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).

## (CONTINUED) - SECTION 8: Exposure Controls/Personal Protection

### 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.

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: Fine Crystals	Color: Colorless
b) Odor	no data available	
c) Odor Threshold	no data available	
d) pH	4.3 at 25°C	
e) Melting point/freezing point	no data available	
f) Initial boiling point and boiling range	no data available	
g) Flash point	no data available	
h) Evaporation rate	no data available	
i) Flammability (solid, gas)	no data available	
j) Upper/lower flammability or explosive limits	no data available	
k) Vapor pressure	no data available	
l) Vapor density	no data available	
m) Relative density	no data available	
n) Water solubility	no data available	
o) Partition coefficient: octanol/water	no data available	
p) Autoignition temperature	no data available	
q) Decomposition temperature	no data available	
r) Viscosity	no data available	
s) Explosive properties	no data available	
t) Oxidizing properties	no data available	

### 9.2 Other safety information

Surface tension	no data available
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## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

## (CONTINUED) - SECTION 10: Stability and Reactivity

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 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

## SECTION 11: Toxicological Information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 2.150 mg/kg

Intraperitoneal - rat - 200 mg/kg

#### Skin irritation / corrosion

no data available

#### Serious eye damage/eye irritation

Eyes - rabbit - Moderate eye irritation - Draize Test

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Chronic exposure

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.

#### Reproductive toxicity

no data available

#### Specific target organ toxicity - single exposure

no data available

#### Specific target organ toxicity - repeated exposure

no data available

## (CONTINUED) - SECTION 11: Toxicological Information

### Aspiration hazard

no data available

### Potential health effects

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

### 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, 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.

### Additional information

RTECS: ZH5300000

## SECTION 12: Ecological Information

### 12.1 Toxicity

Toxicity to fish mortality LC50 - other fish - 1 - 10 mg/l - 96,0 h

### 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

no data available

### 12.6 Other adverse effects

Very toxic to aquatic life with long lasting effects.



## SECTION 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.

## SECTION 14: Transportation Information

### 14.1 UN number

ADR/RID: 3077

IMDG: 3077

IATA: 3077

### 14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate heptahydrate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulfate heptahydrate)

IATA: Environmentally hazardous substance, solid, n.o.s. (Zinc sulfate heptahydrate)

### 14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

### 14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: yes

### 14.6 Special precautions for user

no data available

#### Further information

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

## SECTION 15: Regulatory Information

**This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.**

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

no data available

### 15.2 Chemical Safety Assessment

no data available

## SECTION 16: Other Information

### DISCLAIMER

For research use only. Not for drug, household, or other use.

### WARRANTY

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 this product. Hampton Research Corp., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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