Preparing for the New Era of Laboratories

# MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

## ZINC SULPHATE HEPTAHYDRATE 99,5% AR

PRODUCT CODE : O-5233

CAS No : 7446-20-0

FORMULA : $ZnSO_4.7H_2O$

UN No : 3077

webste : www.labotiq.net

# MATERIAL SAFETY DATA SHEET (SDS/MSDS)
# ZINC SULPHATE HEPTAHYDRATE 99,5% AR

| MSDS Number : 0422 | Date : Sept 2nd, 2024 | Version : 1.0 |
|---|---|---|

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**1.1 Product Name** : **ZINC SULPHATE HEPTAHYDRATE 99,5% AR**
**Synonyms** : Sulfuric acid, Zinc Salt (1:1) Heptahydrate,White Vitriol, Heptahydrate, Zinc Vitriol
**CAS No.** : 7446-20-0
**HS Code** : 2833 26 90
**Molecular Weight** : 287.56 g/mol
**Chemical Formula** : $ZnSO_4.7H_2O$
**Product Code** : O-5233
**Brand** : Labotiq
**1.2 Manufacturer** : Labotiq
**Address** : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
**Website** : www.labotiq.net
**Email** : labotiq.id@gmail.com,
**For information** : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
**Emergency number** : +6281316894650
**1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

## SECTION 2: Hazards identification

**2.1 Classification of the substance or mixture**
**Classification according to Regulation (EC) No 1272/2008**
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 Label elements**
Labelling according Regulation (EC) No 1272/2008

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) | |
| 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 eye protection/ face protection. |
| | |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER/ doctor 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. |
| Supplemental Hazard Statements | none |

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**

| | |
|---|---|
| Synonyms | : Sulfuric acid, Zinc Salt (1:1) Heptahydrate,White Vitriol, Heptahydrate, Zinc Vitriol |
| Formula | : $ZnSO_4.7H_2O$ |
| Molecular weight | : 287.56 g/mol |
| CAS-No. | : 7446-20-0 |
| EC-No. | : 231-793-3 |
| Index-No. | : 030-006-00-9 |

**3.2 Mixture**

**Hazardous ingredients according to Regulation (EC) No 1272/2008**

| Component | Classification | Concentration |
|---|---|---|
| Zinc sulfate heptahydrate<br>CAS-No. . 7446-20-0<br>EC-No. 231-793-3<br>Index-No 030-006-00-9 | Acute Tox. 4; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H318, H400, H410 M-Factor - Aquatic Acute: 1 M-Factor - Aquatic Chronic: 1 | <=100 % |

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

## 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**

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

## SECTION 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.

## SECTION 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

## SECTION 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

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**

Ingredients with workplace control parameters

**8.2 Exposure controls**

**Appropriat 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**

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

**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.

**Full contact**

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740, Size M)

**Splash contact**

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740, Size M)

**Body Protection**

protective clothing

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a fullface 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**
Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Appearance | Form: powder, crystalline<br>Colour: white |
| Odour | No data available |
| Odour Threshold | No data available |
| pH | No data available |
| Melting point/freezingpoint | Melting point: 100 °C |
| Initial boiling point and boiling range | No data available |
| Flash point | Not applicable |
| Evaporation rate | No data available |
| Flammability (solid, gas) | The product is not flammable. |
| Upper/lower flammability or | No data available |
| explosive limits | No data available |
| Vapour pressure | No data available |
| Vapour density | No data available |
| Relative density | 1,97 g/cm3 |
| Water solubility | No data available |
| Partition coefficient: noctanol/water | Not applicable for inorganic substances |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity | No data available |
| Explosive properties | No data available |
| Oxidizing properties | none |

### 9.2 Other safety information
No data available

## SECTION 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

## SECTION 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 sensitisation**
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**
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(Zinc sulfate heptahydrate)

**Specific target organ toxicity - single exposure**
No data available(Zinc sulfate heptahydrate)

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available(Zinc sulfate heptahydrate)

**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.

## 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)

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)

### 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(II) sulfate heptahydrate) Bioconcentration factor (BCF): 0,4

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

No data available

**Endocrine disrupting properties**
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

No data available

## SECTION 14: Transport 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**

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

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

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

**National legislation**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

: ENVIRONMENTAL HAZARDS

**Other regulations**

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

**15.2 Chemical safety assessment**

For this product a chemical safety assessment was not carried out

## SECTION 16: Other information

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

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.

**National Fire Protection Association (U.S.A.):**
Health: 2
Flammability: 0
Reactivity: 0

***Further 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. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.*

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