

## Safety Data Sheet

### Section 1. Identification of the substance/mixture and of the company/undertaking

**Product identifier:**

Product name: Zinc Sulfate

Reference number(SDS):83062jis\_E-2

**Product type:**

Quasi-drug raw materials

※This product conform to JSQI (Japanese Standards of Quasi-drug Ingredients).

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

Relevant identified uses of the product: Astringents, Biocides

Uses advised against: Do not use for other purposes.

**Details of the supplier of the safety data sheet**

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

### Section 2. Hazards identification

**GHS classification and label elements of the product****Classification of the substance or mixture****HEALTH HAZARDS**

Acute toxicity (Oral): Category 4

Serious eye damage/eye irritation: Category 1

Specific target organ toxicity – single exposure: Category 2 (gastrointestinal tract)

**ENVIRONMENT HAZARDS**

Hazardous to the aquatic environment, short-term (acute): Category 1

Hazardous to the aquatic environment, long-term (chronic): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

**Label elements**

Signal word: Danger

**HAZARD STATEMENT**

H302-Harmful if swallowed

H318-Causes serious eye damage

H371-May cause damage to organs

H400-Very toxic to aquatic life

H410-Very toxic to aquatic life with long lasting effects

**PRECAUTIONARY STATEMENT****Prevention**

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash contaminated parts thoroughly after handling.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

**Response**

Collect spillage.

Immediately call a POISON CENTER/doctor/physician.

IF exposed or concerned: Call a POISON CENTER/doctor/physician.

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

IF SWALLOWED: Rinse mouth. Call a POISON CENTER/doctor/physician if you feel unwell.

**Storage**

Store locked up.

**Disposal**

Dispose of contents/container in accordance with local/national regulation.

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**Section 3. Composition/information on ingredients****Mixture/Substance selection:****Substance**

Ingredient name:Zinc sulfate heptahydrate

Content (%):99.0 <

Chemical formula:O4SZn•7H2O

Chemicals No, Japan:1-542

CAS No.:7446-20-0[7733-02-0(anh)]

MW:287.55

ECNO:231-793-3(anh)

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**Section 4. First-aid measures****Descriptions of first-aid measures****General measures**

Immediately call a POISON CENTER/doctor/physician.

Call emergency medical service.

**IF INHALED**

Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

Call a POISON CENTER/doctor/physician if you feel unwell.

**IF ON SKIN (or hair)**

Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

Remove and isolate contaminated clothing and shoes.

**IF IN EYES**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

**IF SWALLOWED**

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

**Most important symptoms and effects, both acute and delayed****(Symptoms when inhalation or ingestion)**

Cough. Sore throat. Shortness of breath. Abdominal pain. Diarrhoea. Nausea. Vomiting.

**(Symptoms when skin and/or eye contact)**

Conjunctival redness of the eyes. Redness of the skin. Pain of the eyes. Loss of vision.

**Indication of any immediate medical attention and special treatment needed**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

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## Section 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

The product is non-flammable.

#### Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

### Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

### Advice for firefighters

#### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

#### Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## Section 6. Accidental release measures

### Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Do not touch or walk through spilled material.

### Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

### Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

### Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

Prevent dust cloud.

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## Section 7. Handling and storage

### Precautions for safe handling

#### Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

**Safety Measures**

- Wear protective gloves/protective clothing/eye protection/face protection.
- Use personal protective equipment as required.
- When using do not eat, drink or smoke.

**Any incompatibilities**

- Strong bases should not be mixed with the chemicals.

**Advice on general occupational hygiene**

- Wash contaminated parts thoroughly after handling.
- Do not eat, drink or smoke when using this product.

**Storage****Conditions for safe storage**

- Store in a well-ventilated place. Keep container tightly closed.
- Keep cool. Protect from sunlight.
- Store in accordance with local/national regulation.
- Store locked up.

Container and packaging materials for safe handling data is not available.

**Specific end use(s)**

- See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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**Section 8. Exposure controls/personal protection****Control parameters**

Control value in MHLW is not available.

**Adopted value**

- Adopted value in JSOH is not available.
- Adopted value in ACGIH is not available.

**Exposure controls****Appropriate engineering controls**

- Do not use in areas without adequate ventilation.
- Eye wash station should be available.
- Washing facilities should be available.

**Individual protection measures****Respiratory protection**

- Wear respiratory protection.

**Hand protection**

- Wear protective gloves.
- Inspect before use and replace worn or damaged gloves.
- Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.

**Eye protection**

- Wear chemical safety goggle.
- Wear eye/face protection.

**Skin and body protection**

- Wear impervious clothing and boots in case of repeated or prolonged treatment.

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**Section 9. Physical and Chemical Properties****Information on basic physical and chemical properties**

- Physical state: Crystalline powder
- Color: Colorless or white
- Odor: None
- Odor threshold data is not available.
- Melting point/Freezing point: 100°C

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids): Non-flammable

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point: Non-flammable

Auto-ignition temperature data is not available.

Decomposition temperature: 100°C

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH: 4.4~6.0 (50g/L, 25°C)

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 54 g/100 ml (20°C)

Solubility in solvent: Practically insoluble in ethanol.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Vapor density data is not available.

Density and/or relative density: 1.97g/cm<sup>3</sup>(20°C)

Relative vapor density (Air=1) data is not available.

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Particle characteristics data is not available.

Other information

Critical temperature data is not available.

Evaporation rate data is not available.

VOC data is not available.

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## Section 10. Stability and Reactivity

Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

Efflorescent in dry air.

Possibility of hazardous reactions

Possibility of hazardous reactions data is not available.

Conditions to avoid

Contact with incompatible materials.

Heat. Air.

Incompatible materials

Strong bases

Hazardous decomposition products

Sulfur oxides, Zinc oxides.

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Category 4, Harmful if swallowed

[Data for components of the product]

[GHS Cat. Japan, base data]

rat LD50=1000~2000mg/kg (EU-RAR, 2004)

## Acute toxicity (Dermal)

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

rat LD50 &gt;2000mg/kg (EU-RAR, 2004)

## Acute toxicity (Inhalation)

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Irritant properties

## Skin corrosion/irritation

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

Zinc sulfate is considered not irritating/corrosive to the skin based on the test according to EU and OECD guidelines. (EU-RAR, 2004)

## Serious eye damage/irritation

[Product]

Category 1, Causes serious eye damage

[Data for components of the product]

[GHS Cat. Japan, base data]

severe irritation [R41] (EC criteria)

## Sensitization

## Respiratory sensitization

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Skin sensitization

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

This substance is not considered a skin sensitizer.(EU-RAR, 2004)

## Germ cell mutagenicity

[Product]

Based on available data, the classification criteria are not met.

## Carcinogenicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Reproductive toxicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

## Specific target organ toxicity (STOT)

## STOT-single exposure

[Product]

Category 2, May cause damage to organs

[Data for components of the product]

[cat.2]

[GHS Cat. Japan, base data]

gastrointestinal tract (EU-RAR, 2004)

STOT-repeated exposure

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Aspiration hazard

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

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## Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]

Category 1, Very toxic to aquatic life

Category 1, Very toxic to aquatic life with long lasting effects

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

Crustacea (Ceriodaphnia reticulata) LC50=0.095mg/L/48hr (ECETOC, 2003)

Water solubility

54 g/100 ml (20°C) (ICSC, 2001)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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## Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

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## Section 14. Transport Information

UN No., UN CLASS

UN Number or ID Number : 3077

UN Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Packing group : III

ERG GUIDE No.: 171

Zinc Sulfate ,JUNSEI CHEMICAL CO., LTD.,83062jis\_E-2,23/Jan/2023

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN Number or ID Number : 3077

UN Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Packing group : III

**IATA (Dangerous Goods Regulations)**

UN Number or ID Number : 3077

UN Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division (Transport hazard class) : 9

Hazard labels : Miscellaneous &amp; Environmentally hazardous

Packing group : III

**Environmental hazards**

Marine pollutants (yes/no) : yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable to Transport in bulk according to Annex II of MARPOL and the IBC Code

**MARPOL Annex V – HME (Harmful to the Marine Environment)**

Hazardous to the aquatic environment – short-term (acute): cat.1

Zinc sulfate heptahydrate

Hazardous to the aquatic environment – long-term (chronic): cat.1, 2

Zinc sulfate heptahydrate

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**Section 15. Regulatory Information**

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

**U.S. Toxic Substances Control Act (TSCA) Inventory**

Chemicals listed in TSCA Inventory

7446-20-0 [7733-02-0(anh)]

All components are listed or exempted.

**Superfund Amendments and Reauthorizations Act (SARA), Title III**

SARA 313 (TRI)

Zinc sulfate heptahydrate

**Other regulatory information**

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

**Chemical safety assessment**

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

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**Section 16. Other information****GHS classification and labelling**

H302-Acute toxicity, Category 4: H302 Harmful if swallowed

H318-Serious eye damage/eye irritation, Category 1: H318 Causes serious eye damage

H371-STOT – single exposure, Category 2: H371 May cause damage to organs

H400-Hazardous to the aquatic environment, short-term (acute), Category 1: H400 Very toxic to aquatic life

H410-Hazardous to the aquatic environment, long-term (chronic), Category 1: H410 Very toxic to aquatic life with long lasting effects



**References and sources for data**

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2020 Edition (Incorporating Amendment 40-20)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
JIS Z 7252 : 2019  
JIS Z 7253 : 2019  
2021 Recommendation on TLVs (JSOH)  
Notification No. 0111-1 (January 11, 2022), Chemical Hazards Control Division, Industrial  
Safety and Health Department, Labour Standards Bureau, MHLW in Japan  
Supplier's data/information  
Chemicals safety data management system "GHS Assistant" Version 4.20(<https://www.asahi-ghs.com/>)  
NITE Chemical Risk Information Platform "NITE-CHRIP"  
([https://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop))  
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

**Abbreviations and acronyms**

SDS (Safety Data Sheet)  
LD50 (Lethal Dose, 50%)  
LC50 (Lethal Concentration, 50%)  
IARC (International Agency for Research on Cancer)  
ACGIH (American Conference of Governmental Industrial Hygienists)  
EPA (US Environmental Protection Agency)  
NTP (US National Toxicology Program)  
JSOH (Japan Society for Occupational Health)  
EU (European Union)  
EC50 (Effective Concentration, 50%)  
NOEC (No Observed Effect Concentration)  
BOD (Biochemical Oxygen Demand)  
COD (Chemical Oxygen Demand)  
BCF (Bioconcentration Factor)  
anh (anhydride)

**General Disclaimer**

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2021).