

## Use of the substance/ preparation

Agribusiness | Other industrial uses

## Company name

Industrias emu s.a.s.

## 1. Product and company identification

**Synonyms:** Zinc acid sulfate.

**N° CAS:** 7446-19-7

**Molecular weight:** 179.46 g/mol

**Chemical Formula:** ZnSO<sub>4</sub>

**Concentrations:** 17% Zn, 22% Zn, 28% Zn, 32% Zn, 35% Zn.

### Company name

Company: Industrias emu s.a.s.

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### Emergency contacts:

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(+57) 313 732 96 68

(+57) 301 250 53 53

## 2. Hazard identification

### Classification of the substance or mixture

Acute toxicity, category 4, oral, H302

Severe eye injuries, Category 1, H318

Chronic aquatic toxicity, Category 1, H410

### Label elements

#### Hazard pictograms



#### Word of warning

Danger

### Danger indications

H302 Harmful if swallowed.

H318 Causes severe eye damage.

H410 Very toxic to aquatic organisms, with lasting harmful effects.

### Precautionary statements

*Prevention.*

P270 Do not eat, drink, or smoke while handling this product.

P273 Avoid its release to the environment.

P280 Wear protective glasses.



# Zinc Sulfate Monohydrate

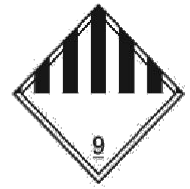
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### Intervention

P301 + P312 IN CASE OF INGESTION: call a poison information center or a doctor in case of discomfort.

P305 + P351 + P338 IN CASE OF EYE CONTACT: rinse carefully with water for several minutes. Remove contact lenses, if worn and easy. Keep clarifying.

P391 Collect the spills.

P313 Get medical advice/care

### Other dangers

None known.

## 3. Composition/ information on the components

### Substance

Chemical name Monohydrated zinc sulfate

Chemical formula  $ZnSO_4 \cdot H_2O$

Concentration 17% Zn, 22% Zn, 28% Zn, 32% Zn, 35% Zn

Way Granulado o polvo

N°. CAS 7446-19-7

N°. CE 231-793-3

## 4. First aid measures

### Description of the first aid

*Inhalation of the material can be harmful.*

After inhalation: fresh air.

If the patient is unconscious, but breathing, lay him on his side. In case of cardiac arrest (no response and no normal breathing), immediately perform compressions and ventilation.

Always ensure medical treatment, also in case of lack of symptoms.

*Contact can cause burns to the skin and eyes.*

In case of skin contact: remove immediately all contaminated garments.

Wash with water/shower for at least 20 minutes.

After eye contact: rinse with plenty of water for 10 minutes. Consult the ophthalmologist.

After ingestion: si the patient is conscious, ask him that baby 1 glass of water (approximately 200 ml).

Do not induce vomiting.

In case of spontaneous vomiting, keep the patient face down to prevent vomiting penetrate the airways.

Consult with a doctor.

### Main symptoms and effects, acute and delayed



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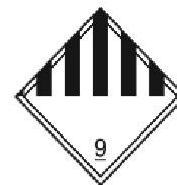
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Irritating effects, conjunctivitis, stomach pain, diarrhea, vomiting, collapse, death, risk of turbidity in the cornea.

### Indication of any medical care and special treatment required dispense immediately

Eyes: severe irritation, conjunctivitis corneal damage.

Inhalation: Depending on the dose and duration of exposure, effects may include respiratory irritation, necrotizing bronchitis, pneumonia and pulmonary edema.

Ingestion: chemical burns of mucous membranes, metallic taste and burning sensations in mouth, nausea, vomiting, diarrhea, abdominal pain, pulmonary edema, circulatory collapse until shock including circulatory failure.

## 5. Fire Means of extinction

### Fire measures

The substance is non-combustible. Select fire extinguishing measures according with the surrounding conditions.

#### Small fire:

Dry chemical powder, CO<sub>2</sub>, water spray or regular foam.

#### Big fire.

Use water spray, fog or regular foam.

Do not disperse spilled material with high pressure water jets.

Move containers from the fire area if you can safely do so.

Make a dam for the water that controls the fire for its subsequent disposal.

### Specific hazards arising from the substance or mixture

Non-fuel: non-fuel substances do not ignite themselves, but can react by heating and produce toxic fumes.

Possibility of formation of dangerous vapors by fire in the environment.

Fire can cause fumes of: sulfur oxides.

### Recommendations for fire fighting personnel

#### Special protective equipment for fire-fighting personnel.

Use self-contained positive pressure air (SCBA) equipment.

The suit for professional firefighters will provide only limited protection, wear a special airtight sealed suit.

Stay in the risk area only with environmentally independent artificial respiration systems.

### Other information

Repress gases/vapours/mists with powdered water. Prevent contamination of surface water or groundwater by water that has served to extinguish fires.



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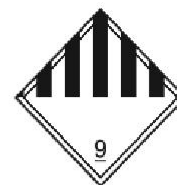
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### 6. Accidental dumping measures

#### Personal precautions

Do not touch or walk on spilled material.  
Stop the spill, if you can safely do so using protective equipment personal. *See section 8.*  
Prevent the dust cloud.

#### Small spill

With a clean shovel place the material in a clean and dry container and cover loosely; remove containers from the spill area.

#### Big spill

Cordon off the area with a signaling tape.  
Cover the dust spill with a sheet of plastic or canvas to minimize its spread.  
Prevent entry into waterways, sewers, basements, or confined areas.

#### Reference to other sections

For details on waste treatment, *see Section 13.*

### 7. Handling and storage

#### Precautions for safe handling

##### Hygiene measures

Replace the contaminated clothing. Wash hands after work.

#### Safe storage conditions, including possible incompatibilities

Do not use any food containers.  
Packaging must be clearly and permanently labelled.  
Store in the original container as much as possible.  
Preferably use unbreakable containers instead of glass.  
Keep the container tightly closed.  
Store in a dry place.

The substance should not be stored with substances with which dangerous chemical reactions occur.

For possible incompatibilities refer to *section 10.*

### 8. Exposure and personal protection controls

#### Control parameters

Does not contain substances with occupational exposure limit values.

#### Exposure controls

#### Ventilation system

A local and/or general exhaust aeration system is recommended to keep employee exposures below exposure limits. Local exhaust ventilation is generally preferred because emissions of the pollutant at its source can be controlled, preventing its dispersion in the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Best Practice Manual, latest edition, for details.*



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### Personal Respirators (NIOSH Approved)

If the exposure limit is exceeded, a medium dust/fog mask particulate respirator shall be used if exposed 10 times above the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or the respirator provider. A full dust/fog mask particulate respirator shall be used if 50 times above the exposure limit or maximum use concentration specified by the appropriate regulatory agency or respirator provider is exposed. For emergencies or cases where exposure levels are not known, use a full positive pressure mask or self-contained respirator.

WARNING: Self-contained respirators do not protect workers in oxygen-deficient atmospheres.

### Skin protection

Submergence	Material of the glove: nitrile rubber Thickness of the glove: 0,11 mm Time of penetration: >480 min
Spatter	Material of the glove: nitrile rubber Thickness of the glove: 0,11 mm Time of penetration: >480 min

## 9. Physical properties and chemical

### Eye protection

Wear protective chemical goggles. Keep an eye wash fountain and emergency showers in the work area.

### Environmental exposure checks

Do not let the product enter the sewer system.

### Property information basic physical and chemical

Way	Solid.
Smell	Characteristic.
Color	Cream, can vary between gray and coffee depending on the concentration.
Olfactory threshold	Not applicable.
pH	Approx. 4 - 5.6 to 50 g/l 20°C
Melting point	Not applicable.
Point/boiling interval	Not applicable.
Flash point	It does not swell.
Evaporation rate	No information is available.
Flammability (solid, gas)	No information is available.
Explosion limit, lower	Not applicable.
Limit of explosion, upper	Not applicable.
Vapour pressure	No information is available.
Relative density of steam	No information is available.
Density	3,2 g/cm <sup>3</sup> to 20 °C



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Relative density	No information is available.
Water solubility	350 g/l to 20 °C
Partition coefficient noctanol/water	No information is available.
Self-ignition temperature	No information is available.
Decomposition temperature	> 39 - 280 °C Elimination of hydration water. 600°C anhydrous substance.
Dynamic viscosity	No information is available.
Explosive properties	Not classified/a as explosive/a.
Oxidising properties	None.
<b>Other information</b>	
Ignition temperature	Non-fuel.
Apparent density	Approx. 500 kg/m <sup>3</sup>

## 10. Stability and reactivity

### Stability and reactivity

See "*Possibility of dangerous reactions*"

#### Chemical stability

Removal of hydration water by heating to 240 °C. The product is chemically stable under normal conditions (at room temperature).

#### Possibility of dangerous reactions

Exothermic reaction with strong oxidizing agents.

#### Conditions to be avoided

Strong warming.

#### Incompatible materials

Information not available.

#### Dangerous decomposition products

In case of fire: see *Section 5*.

## 11. Toxicological Information

### Toxicological Information

#### Information on toxicological effects

##### Acute oral toxicity

Absorption

*Acute toxicity estimate: 500.1 mg/kg*

Expert judgement

##### Acute toxicity by inhalation

It damages the airways, its inhalation can produce edema in the respiratory tract.

##### Acute skin toxicity

This information is not available.



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### *Skin irritation*

Possible consequences: slight irritation.

### *Eye irritation*

It causes serious eye damage.

### *Sensitization*

This information is not available.

### *Mutagenicity in germ cells*

#### *In vitro genotoxicity*

#### Ames test

Result: negative

(Anhydrous substance) (IUCLID)

### *Carcinogenicity*

This information is not available.

### *Reproductive toxicity*

This information is not available.

### *Teratogenicity*

This information is not available.

*Specific toxicity to certain organs - single exposure* This information is not available.

*Specific toxicity to certain organs - repeated exposures* This information is not available.

### *Aspiration hazard*

This information is not available.

## **Other information**

### *After absorption*

Systemic effects: pain, vomiting, diarrhea.

### *After ingestion of large quantities:*

Decreased blood pressure, effects on the cardiovascular system, collapse.

### *Other indications*

Handle with proper industrial hygiene precautions, and respect safety practices.



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## 12. Ecological information

### Toxicity

*Toxicity to Daphnia and other aquatic invertebrates*

CE50 Daphnia magna (big sea flea): 0,15 mg/l; 48 h (Literature)

*Algae toxicity*

IC50 Scenedesmus quadricauda (alga verde): 0,52 mg/l; 5d (anhydrous substance) (IUCLID)

### Persistence and degradability

*Biodegradability*

Methods for the determination of biological degradability are not applicable for inorganic substances.

### Bioaccumulation potential

No information is available.

### Floor mobility

No information is available.

### Results of the PBT and MPMB assessment

A PBT and MPMB assessment was not made, due to the fact that a chemical hazard assessment is not necessary or does not exist.

### Other adverse effects

*Complementary environmental information*

Biological effects: bactericidal effect.

Dangerous for drinking water.

Additional information on ecology.

Discharge to the environment must be avoided.

## 13. Disposal considerations

In accordance with Resolution 1704 of 2018, the final disposition of this packaging must be made with a hazardous waste manager.

Any amount that cannot be saved by recovery or recycling must be handled at an appropriate and approved waste disposal facility. The processing, use or contamination of this product can change waste management options. Departmental disposal regulations may differ from national disposal regulations. Discard the container and do not use the residue.

## 14. Transport information

### Trucking

United Nations official transport designation

Solid substance dangerous to the environment, N.E.P. (Zinc sulphate)

N°UN/ID

3077

Danger class

9

Packing group

III





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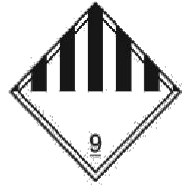
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Instructions for packaging/ packaging P002, IBC08, LP02\*

Special provisions of packaging/packaging PP12, B3 \*

Environmentally dangerous Yes

Special precautions for users Yes

*\*For further information please refer to the Book United Nations Orange section 4.1.4*

### Air transport (IATA)

United Nations official transport designation Solid substance dangerous to the environment, N.E.P. (Zinc sulphate)

N°UN/ID 3077

Danger class 9

Packing group III

Environmentally dangerous Yes

Special precautions for users Not

### Maritime transport (IMDG)

United Nations official transport designation Solid substance dangerous to the environment, N.E.P. (Zinc sulphate)

N°UN/ID 3077

Danger class 9

Packing group III

Environmentally dangerous Yes

Special precautions for users Yes



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## 15. Regulatory information

### Chemical Inventory Status - Part 1

Ingredient	TSCA	EC	Japan	Australia
Monohydrated zinc sulphate (744-19-7)	Not	Yes	Yes	Yes

### Chemical Inventory Status - Part 2

Ingredient	Korea	Canada		
		DSL	NDSL	Phil
Monohydrated zinc sulphate (744-19-7)	Yes	Yes	Not	Yes

### Federal, State and International Regulations - Part 1

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List	Cat. Quimico
Monohydrated zinc sulphate (744-19-7)	Not	Not	No	Componentes de Zinc

### Federal, State and International Regulations - Part 2

Ingredient	CERCLA	RCRA	TSCA
		261.33	8 (d)
Monohydrated zinc sulphate (744-19-7)	1000	Not	Not

**Chemical Weapons Conversion:** No | **TSCA 12 (b):** No | **CDTA:** No  
**SARA 311/312: Acute:** Yes | **Chronic:** No | **Flammability:** No | **Pressure:** No  
**Reactivity:** No (Pure / Solid)

**Australian Hazchem Code:** None assigned.

**Fraser venom:** S6

**WHMIS:** this MSDS has been prepared in accordance with the hazard criteria of the Controlled Products (CPR) and MSDS contains all the information required by the CPR.



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## 16. Other information

### Transport labelling *Danger level 9*



### Special labelling



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