

## Safety Data Sheet

### Section 1: Identification

**Product Name:** Zinc Sulfate Monohydrate

**Product Type:** Solid

**Recommended Uses:** For further manufacturing of feed. For Fertilizer.

**Synonyms:** Zinc Sulfate Monohydrate, Zinc Sulfate Maximum 360/361/362/363/365

**Company Identification:**

Origination Inc.  
1300 McKnight Road North  
Maplewood, MN 55119

**For information, call:** 1-800-625-6079

**Emergency Number:** 1-800-625-6079

**For CHEMTREC assistance, call:** 1-800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2: Hazard(s) Identification


**Classification of the substance:** GHS Classification.

Acute aquatic toxicity (Category 1) H400

Chronic aquatic toxicity (Category 1) H410

Acute Tox. 4, H302; Eye Damage 1, H318

**GHS label elements:**

Pictograms	Signal Word	Hazard Statements	Precautionary Statements
	DANGER	H302 H318 H400 H410	P273 P301 + P312 P351

For the full meaning of the phrases H and P: See section 16

### Section 3: Composition / Information on Ingredients

Component	CE N°	CAS N°	% (w/w)
Zinc Sulfate, ZnSO <sub>4</sub>	231-793-3	7446-19-7	97.4

## Section 4: First Aid Measures

### Description of first aid measures

**Ingestion:** Have victim rinse mouth thoroughly with water. "Do not induce vomiting" Immediately give large amount of water. If vomiting occurs, rinse mouth and repeat administration of water. Obtain medical advice. Never give anything by mouth to an unconscious or convulsing person.

**Inhalation:** If symptoms are experienced, remove source of contamination or move victim to fresh air. In case of breathing difficulties administer oxygen. If symptoms persist, obtain medical advice immediately.

**Contact with Eyes:** In case of eye contact, keep eyelid open and slush with plenty of water for 15 minutes. If irritation should persist subsequently consult an ophthalmologist. Protect the eye that is not injured.

**Contact with Skin:** After contact with skin, wash immediately with water. Subsequently wash again with water and soap. Take off immediately all contaminated clothing. If irritation persists, seek medical attention.

## Section 5: Fire Fighting Measures

**Suitable extinguishing media:** Water spray gets, water mist, foam and carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media:** Full water jet.

**Special Hazards:** In case of fire may be liberated sulfur dioxide (SO<sub>2</sub>) and Sulfur trioxide (SO<sub>3</sub>).

**Combustion decomposition products:** Sulfur dioxide (SO<sub>2</sub>) and sulfur trioxide (SO<sub>3</sub>) are generated.

**Advice for firefighters:** Heating of container(s) will cause pressure rise with risk of burstin and subsequent explosion gives off toxic and irritant fumes with heated or burning. The vapor may be invisible and is heavier than air. It spreads along the ground and may enter sewers and basements. Keep container(s) cool with water. Extinguish with water fog (spray) Do not use water jet to extinguish. Use water spray to knock down fire fumes if possible. Avoid unnecessary run-off of extinguishing media which may cause pollution.

**Personal protective equipment:** Wear self-contained breathing apparatus.

## Section 6: Accidental Release Measures

**Personal precautions:** Use personal protective equipment (see section 8).

**Environmental Precautions:** Stop leaks if possible. Contain spillage by any means available. Cover drains. Do not allow to enter into soil/subsoil. Do not empty into drains or the aquatic environment.

**Methods and material for containment and cleaning up:** Sweep spilled substance into containers. Carefully collect remainder, and then remove to safe place. Dispose according to regulations (see section13).

## Section 7: Handling and Storage

### Precautions for safe handling:

Avoid spilling, skin and eye contact.

Use mechanical ventilation in case of handling which causes formation of dust.

Avoid inhalation of dust.

### Conditions for safe storage:

Keep in the original container.

Keep in a fresh, dry and vented place.

Store away of strong acids or alkaline substances.

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Store away of oxidizing or reducing materials.  
Keep the container free of leaks.  
Store away from hot surfaces and risk flame places.

## Section 8: Exposure Controls, Personal Protection

### Exposure limits values

Component	Mexico	USA	Europe
Zinc Sulfate	NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 10 mg/m <sup>3</sup> 8 hours (powder). LMPE-CT: 10 mg/m <sup>3</sup> 15 min (smoke). LMPE-PPT: 5 mg/m <sup>3</sup> 8 hours (smoke).	OSHA PEL (2/2013). TWA: 5 mg/m <sup>3</sup> 8 hours (Respirable fraction). TWA: 15 mg/m <sup>3</sup> 8 hours (Total dust).	TWA 10 mg / m <sup>3</sup> 8 hours (Total dust). TWA 4 mg / m <sup>3</sup> 8 hours (Respirable fraction).

**Exposure Controls:** Local and general ventilation, to ensure that concentration does not exceed the limits for occupational exposure. Consider enclosing the process. Ensuring control of process conditions. Replacement air supply to supply air continuously removed. Provide showers and eyewash stations.

### Individual Protection

**Eye Protection:** Safety goggles are recommended.

**Hand Protection:** Natural rubber gloves are recommended. Wash hands and face before eating, drinking or smoking.

**Respiratory Equipment:** P2 filter respirator for inert particles. Use NIOSH approved particulate respirator if dust generation occurs.

**Other Protection:** Wear appropriate clothing to prevent reasonably probable skin contact. Chemical resistant safety shoes.

## Section 9: Physical and Chemical Properties

**Appearance** Powder and/or prills.

**Color:** White.

**Odor:** Odorless.

**Molecular weight (g/mol):** 179.47

**Relative density (g/cm<sup>3</sup>):** 3.35 20°C

**Melting Point:** 100° (212 °F)

**Boiling Point:** 500° (932 °F)

**Ph:** 4.5-5.5

**Solubility in Water:** 45 g of Zinc Sulfate in 100 g. (100 ml) of water at 78°F.

**Flash Point:** Not applicable

## Section 10: Stability and Reactivity

**Reactivity:** Stable.

**Chemical stability:** Stable under ordinary conditions and storage.

**Possibility of hazardous reactions:** Reacts with peroxides and other radical forming substances.

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**Conitions to avoid:** High temperatures and moisture.

**Incompatible Materials:** Oxidizers (strong). Acids.

**Hazardous decomposition products:** In case of fire, sulfur oxides (Sox) are produced,

## Section 11: Toxicological Information

**Acute toxicity:**

**Oral:** LD50 = 564 to 2949 mg/kg bw. (Rat)

**Dermal:** LD50 > 2000mg/kg bw (Rat).

**Serious eye damage/irritation:** Strong irritant.

**STOT-single exposure:** Not toxic.

**STOT-repeated exposure:** Not Toxic.

**Reproductive Toxicity:** Not toxic for reproduction.

**Skin corrosion/irritation:** Not irritant.

**Respiratory or skin sensitization:** No Sensitizing.

**Aspiration Hazard:** Not Available.

**Carcinogenicity:** Not carcinogen.

**Germ Cell Mutagenicity:** Not mutagenic.

## Section 12: Ecological Information

**Ecotoxicity:** Aquatic invertebrates. For pH < 7: 1.13 mg Zn/l (based on 48 h. Ceriodaphnia dubia test). Algae. For pH >7-8.5:3.73 mg Zn/l (based on 72 h. Selenastrum capricornitum test).

**Mobility in soil:** Not applicable.

**Bioaccumulation:** Not applicable.

**Results of PBT and mPmB:** Not applicable.

**Persistence / degradability:** Not applicable.

**Other adverse effects:** Not applicable.

## Section 13: Disposal Considerations (non-mandatory)

**Waste treatment methods:**

**SUBSTANCE DISPOSAL:** Dispose of in accordance with all applicable local and national regulations. Use recover/recycling where feasible.

**CONTAINER DISPOSAL:** Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods.

## Section 14: Transport Information

**Latin America:** This material is not regulated.

**EE.UU.:** No DOT regulated in domestic (USA ground) transportation in package sizes less than 1000 lbs (454 kg). The DOT transportation information below is for shipments with package sizes equal to or exceeding this value. IMDG Regulated Marine Pollutant.

### DOT

#### Basic Shipping Requirements:

UN Number: UN 3077

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Zinc Sulfate Monohydrate RQ = 1000lbs)

Hazard Class: 9

Packaging Group: III

Special precautions: Read safety instructions, SDS and emergency procedures before handling.

#### Additional Information:

Special provisions: 8, 146, 335, A112, B54, IB8, IP3 N20, T1, TP33

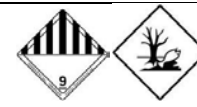
Packaging Exceptions: 155

Packaging non bulk: 213

Packaging bulk: 240

Reportable quantity: 1000

#### European Union:

Type of transport	Classification	UN Number	Proper shipping name	Class	Group Packing	Label
Land: Road Railroad	ADR RID	UN 3077	Environmentally Hazardous Substance, Solid, N.O.S. (Zinc Sulfate Monohydrate)	9	III	
Sea	IMO/IMDG					
Air	IATA/DGR					

## Section 15: Regulatory Information

**Mexico:** This material is not regulated.

**EE.UU.**

**SARA 302:** RQ=None, TPQ=None.

**SARA 311/312:** Yes (Acute).

**SARA 313:** Zn and Pb Compounds.

**RCRA 261:** None

**TSCA:** No.

**TSCA 8(d):** No

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**TSCA 12(b):** No

**Prop. 65:** Yes (Pb, Cd).

**CDTA:** No.

**Florida:** Yes

**Pennsylvania:** Yes.

**Minnesota:** No.

**Massachusetts:** Yes.

**New Jersey:** Yes.

**California:** Yes.

**Canada**

**Classification WHMIS:** Not controlled

**Domestic Substances List (DSL):** No

**European Union**

**EINECS:** No.

**ELINCS:** No.

**REACH:** Yes (01-2119474684-27-0023).

## Section 16: Additional Information

### Hazard statements

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.

### Precautionary statements

P351: Rinse cautiously with water for several minutes.

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P273: Avoid release to the environment.

### Hazardous Materials Identification System, (HMIS)

**Health:** 2

**Fire:** 0

**Reactivity:** 0

**Personal Protection:** E

**Personal Protection:** E (recommended only for bulk powder) = Gloves + Mask + Glasses

### Definitions Classifications

**0** = Minimum

**1** = Slight

**2** = Moderate

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**3 = Serious**

**4 = Severe**

This information is based upon calculated data. The company holds no responsibility for damage suffered by the purchaser or other persons handling these goods if safety instructions are not observed. The company holds no responsibility for the wrong use of this material, even if safety instructions have been followed. The purchaser is solely responsible for the use of this material.

**Prepared by: Origination, Inc.**

**Prepared: May, 2015**

### **Disclaimer:**

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