


**1. CHEMICAL PRODUCT – COMPANY IDENTIFICATION.**

GHS Product Name: Zinc Sulphate Monohydrate.  
 Common / Trade Names: Zinc Sulphate Monohydrate.  
 Zinc Sulphate Maximum 360 / 361 / 362 / 363 / 365  
 Application: Fertilizers, intermediates, laboratory chemicals, processing aid not otherwise listed, pharmaceutical substance, surface active agents, lubricants and lubricant additives, fillers, some grades of this substance are available for food/feedstuff additives  
 Company Identification: Zinc Nacional, S.A.  
 Serafín Peña 938 Sur. Monterrey N.L. México. C.P. 64000  
 Phone: +52 (81) 8345-4078 Fax +52 (81) 8344-3446.  
[www.zincnacional.com](http://www.zincnacional.com)  
 Emergency telephone: CHEMTREC +1-800-424-9300

**2. HAZARDS 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:

| Pictogram   | Signal Word | Hazard Statements            | Precautionary Statements    |
|---|-------------|------------------------------|-----------------------------|
|  | Danger      | H302<br>H318<br>H400<br>H410 | P273<br>P301 + P312<br>P351 |

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

- Hazards not otherwise classified: None Know.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS.**

| Component                | Formula | CAS No.   | EC No.    | % (p/p) |
|--------------------------|---------|-----------|-----------|---------|
| Zinc Sulfate Monohydrate | ZnSO4   | 7446-19-7 | 231-793-3 | 97.4    |

**4. FIRST-AID MEASURES.**

- Description of first aid measures.
  - 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.
  - Ingestion:** Have victim rinse mouth thoroughly with water. "Do not induce vomiting". Immediately give large amounts 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.
  - Skin contact:** 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.
  - Eye contact:** In case of eye contact, keep eyelid open and flush with plenty of water for 15 minutes. If irritation should persist subsequently consult an ophthalmologist. Protect the eye that is not injured.
- Most important symptoms and effects, both acute and delayed.
  - Inhalation:** May cause irritation to the respiratory tract.
  - Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
  - Skin contact:** May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
  - Eye contact:** Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking, and tear production, with marked redness and swelling of the conjunctiva. May cause burns.

**5. FIRE-FIGHTING MEASURES.**

- Suitable extinguishing media: Water sprays jet, water mist, foam, and carbon dioxide (CO2).
- Unsuitable extinguishing media: Full water jet.
- Special hazards. In case of fire may be liberated Sulphur dioxide (SO2) and Sulphur trioxide (SO3).
- Combustion decomposition products: Sulphur dioxide (SO2) and Sulphur trioxide (SO3) are generated.
- Advice for firefighters: Heating of container(s) will cause pressure rise with risk of bursting and subsequent explosion gives of toxic and irritant fumes when 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.
- Protection during firefighting: Wear full firefighting turn-out gear and respiratory protection.

**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 section 13).

**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, including any incompatibilities:
  - Keep in the original container.
  - Keep in a fresh, dry, and vented place.
  - Store away of strong acids or alkaline substances.
  - Store away of oxidizing or reducing materials.
  - Keep the container free of leaks.
  - Store away from hot surfaces and risk flame places.

**8. EXPOSURE CONTROL / PERSONAL PROTECTION.**

- Exposure limits values.

| Component                | Mexico  | USA  | Europe  |
|--------------------------|---|--|---|
| Zinc Sulfate Monohydrate | NOM-010-STPS (Mexico, 4/2014).<br>LMPE-PPT: 10 mg/m³ 8 hours (powder).<br>LMPE-CT: 10 mg/m³ 15 min (smoke).<br>LMPE-PPT: 2 mg/m³ 8 hours (smoke). | OSHA PEL (2/2013).<br>TWA: 5 mg/m³ 8 hours (Respirable fraction).<br>TWA: 15 mg/m³ 8 hours (Total dust). | (WELS) / EH40<br>TWA 10 mg / m³ 8 hours (Total dust).<br>TWA 4 mg / m³ 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.
- Personal 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES.**

- **Appearance:** Solid powder or granule
- **Color:** White
- **Odor:** Odorless
- **Molecular weight (gr/mol):** 179.47
- **Melting point:** Not applicable.
- **Decomposition point:** 500°C (932 °F)
- **Relative density (g./cm3):** 3.35
- **Ph:** 4.5 – 6.5
- **Solubility in water:** 45 g. of Zinc Sulfate in 100 g. (100 ml) of water at 78°F
- **Flash Point:** Not applicable.

**10. STABILITY AND REACTIVITY.**

- **Reactivity:** No dangerous reactions known under normal conditions of use.
- **Chemical stability:** Stable under normal conditions.
- **Possibility of hazardous reactions:** Reacts with peroxides and other radical forming substances.
- **Conditions to avoid:** High temperatures and moisture.
- **Incompatible materials:** Oxidizers (strong). Acids.
- **Hazardous decomposition products:** In case of fire, sulfur oxides (Sox) are produced.

**11. TOXICOLOGICAL INFORMATION.**

- |   |  |  |  |
|---|--|--|--|
| - <b>Acute toxicity.</b><br>Oral: LD50 = 564 to 2949 mg/kg bw. (Rat)<br>Dermal: LD50 > 2000 mg/kg bw. (Rat) | - <b>Skin corrosion/irritation.</b><br>Not classified          | - <b>Carcinogenicity.</b><br>Not classified        | - <b>Serious eye damage/irritation.</b><br>Strong irritant |
| - <b>Reproductive toxicity.</b><br>Not toxic for reproduction.  | - <b>Respiratory or skin sensitization.</b><br>No sensitizing. | - <b>Germ cell mutagenicity.</b><br>Not mutagenic. | - <b>Aspiration hazard.</b><br>Not classified              |
| - <b>STOT-single exposure.</b><br>No toxic.   | - <b>STOT-repeated exposure.</b><br>No toxic.                  |  |  |

**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 capricornutum test)
- **Results of PBT and mPmB.**  
Not available.
- **Bioaccumulation.**  
Not available
- **Persistence / degradability.**  
Not available.
- **Mobility in soil.**  
Not available.
- **Other adverse effects.**  
Not available.

**13. DISPOSAL INFORMATION.**

SUBSTANCE DISPOSAL: Dispose of in accordance with all applicable local and national regulations. Use recovery/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.

**14. TRANSPORT INFORMATION.**

- **América:** 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 Sulphate Monohydrate RQ = 1000lbs.) |
| Hazard class         | 9  |
| Packing group        | III  |
| Special precautions  | Read safety instructions, SDS and emergency procedures before handling                       |

**Información Adicional:**

|                      |   |
|----------------------|---|
| 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:<br>Road<br>Railroad | ADR<br>RID     | UN 3077   | Environmentally Hazardous Substance, Solid, N.O.S. (Zinc Sulphate Monohydrate) | 9     | III           |  |
| Sea                       | IMO / IMDG     |           |  |       |               |   |
| Air                       | IATA / DGR     |           |  |       |               |   |

**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: No  
Prop. 65: No (Impurities Pb & Cd listed).  
CDTA: No  
Florida: Yes  
Pennsylvania: Yes  
Minnesota: No  
Massachusetts: Yes  
Nueva Jersey: Yes  
California: Yes
- **Europe REACH:** Registration Number 01-2119474684-27-0023.
- **Inventory / Lists:**

|           |  |               |                                       |
|-----------|--|---------------|---------------------------------------|
| - EE. UU: | TSCA: No                                       | TSCA 8(d): No | TSCA 12 (b): No                       |
| - Canada: | Domestic Substances List (DSL): No, not listed |               | Classification WHMIS: No, not listed. |
| - Europe: | EINECS: No. ELINCS: No.                        |               |                                       |

**16. OTHER INFORMATION.**

- **GHS Definitions**
  - **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.

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.