

Material Safety Data Sheet (MSDS)

Product Name: Zinc Sulphate Monohydrate IP grade

MSDS Generate Date: 20-05-2017

Revision Date: 30-12-2024

Supplier:

Rawpharma Biz Pvt Ltd

1101- City Centre 2,

Science City Road,

Sola Ahmedabad Gujarat,

India - 380060.

Contact No.: +91 97272 88479

Email: info@rawpharmabiz.com

Website: www.rawpharmabiz.com

1. Identification of the Substance/Preparation and Company

- Product name: Zinc Sulphate Monohydrate (IP Grade)
- Other names / synonyms: Zinc sulfate monohydrate; Zinc sulphate · H₂O
- Recommended use: Raw material for pharmaceuticals, fertilizers, animal feed supplements, lab reagent, industrial applications.

2. Hazard Identification

- GHS Classification (typical):
 - Acute oral toxicity: Category 4 (H302 — Harmful if swallowed) — where applicable per concentration/purity.
 - Serious eye damage/eye irritation: Category 1 (H318 — Causes serious eye damage).
 - Hazardous to the aquatic environment — Acute Category 1 / Chronic Category 1 (H400 / H410 — Very toxic to aquatic life with long lasting effects).
- Signal word: **Danger** (where applicable).

- Hazard statements (examples): H302, H318, H410.
- Precautionary statements: Avoid release to the environment; wear protective gloves/eye/face protection; do not eat, drink or smoke when using this product; wash thoroughly after handling.

3. Composition / Information on Ingredients

- Chemical name: Zinc sulfate monohydrate
- Formula: $\text{ZnSO}_4 \cdot \text{H}_2\text{O}$
- Typical purity: (specify IP grade; e.g., commonly $\geq 99\%$ — replace with your exact specification if different)
- CAS / identifiers: *(Not inserted — add your company CAS if required for regulatory paperwork)*
- Impurities / stabilizers that contribute to hazard: Trace impurities may be present; consult certificate of analysis.

4. First Aid Measures

- Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Seek medical attention if symptoms occur.
- Skin contact: Remove contaminated clothing. Wash skin with soap and water. Seek medical attention if irritation persists.
- Eye contact: Rinse immediately with plenty of water for at least 15 minutes, lifting eyelids occasionally. Seek immediate medical attention—can cause serious eye damage.
- Ingestion: Do NOT induce vomiting unless instructed by medical personnel. Rinse mouth and obtain immediate medical attention. Treat symptomatically.
- Most important symptoms/effects: Nausea, vomiting if ingested; severe eye irritation or damage; respiratory irritation with high dust exposure.

5. Firefighting Measures

- Suitable extinguishing media: Use extinguishing measures appropriate for surrounding fire (water spray, foam, dry chemical or CO_2 as appropriate for combustible surroundings).
- Unsuitable extinguishing media: None specific to the product.
- Specific hazards: Non-combustible salt; however packaging and other materials may burn. Oxides of sulphur or zinc may form under extreme conditions.

- Protective equipment for firefighters: Full protective equipment and self-contained breathing apparatus (SCBA). Evacuate area and prevent runoff into waterways.

6. Accidental Release Measures

- Personal precautions: Avoid dust formation. Use personal protective equipment (respirator, gloves, eye protection). Keep unprotected persons away.
- Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge to drains and watercourses — product is harmful to aquatic life.
- Methods for containment and cleanup: Sweep up or vacuum (use HEPA/industrial vacuum) and place in suitable, labeled containers for disposal. Avoid generating dust. Clean residue with water. Dispose per local regulations.

7. Handling and Storage

- Handling: Avoid breathing dust. Use local exhaust ventilation if dust may be generated. Do not eat, drink or smoke where material is handled. Wash hands after handling. Use appropriate PPE.
- Storage: Store in a cool, dry, well-ventilated place. Keep container tightly closed. Protect from moisture and incompatibles (strong bases, strong reducing agents). Store away from foodstuffs and sources of ignition.

8. Exposure Controls / Personal Protection

- Occupational exposure limits: No universally listed specific PEL for zinc sulfate; where jurisdictional OELs are absent, apply general particulates limits (e.g., OSHA PEL for nuisance dusts: 15 mg/m³ total dust / 5 mg/m³ respirable; consult local authority for exact limits). Use local OELs as applicable.
- Engineering controls: Use adequate ventilation (local exhaust) to keep airborne dust below exposure limits.
- Personal protective equipment (PPE):
 - Respiratory protection: Where airborne dust exceeds OELs, use NIOSH-approved respirator (particulate) or equivalent.
 - Eye protection: Safety goggles or face shield.
 - Skin protection: Chemical-resistant gloves and protective clothing.
 - Hygiene measures: Wash hands and exposed skin after handling; remove contaminated clothing before reuse.

9. Physical and Chemical Properties

- Appearance: White crystalline powder or granules (solid).
- Odor: Odorless.
- pH: Aqueous solutions are acidic (typical pH <7 depending on concentration).
- Melting point / decomposition: Decomposes on strong heating (exact values depend on hydration state).
- Solubility: Soluble in water.
- Other data: Bulk density, specific gravity and particle size vary by product grade.

10. Stability and Reactivity

- Chemical stability: Stable under normal conditions of storage and use.
- Conditions to avoid: Excessive moisture, high heat.
- Materials to avoid: Strong bases, strong reducing agents, alkali metals, carbonates (may evolve gases or reduce stability).
- Hazardous decomposition products: Oxides of zinc and sulfur under extreme thermal decomposition.

11. Toxicological Information

- Acute toxicity: Harmful if swallowed (routes and category dependent on dose).
- Skin corrosion/irritation: May cause irritation on prolonged contact; generally not corrosive.
- Serious eye damage/irritation: Causes serious eye damage — immediate irrigation and medical attention required.
- Respiratory or skin sensitization: Not typically a sensitizer.
- Chronic effects: Prolonged or repeated exposure to high levels of zinc salts may cause systemic effects (e.g., gastrointestinal disturbance); evidence of chronic toxicity is limited and depends on dose.
- Carcinogenicity: Not classified as a human carcinogen by major bodies for the salt itself (consult local authoritative lists if needed).

12. Ecological Information

- Ecotoxicity: Very toxic to aquatic life with long lasting effects. Avoid release into the environment.

- Persistence and degradability: Inorganic salt — does not biodegrade but will dissociate; environmental mobility and aquatic toxicity relevant.
- Bioaccumulative potential: Not expected to bioaccumulate; zinc is an essential element but toxic at elevated concentrations.
- Disposal considerations for spills: Prevent discharge to drains and waterways; collect and dispose per local regulations.

13. Disposal Considerations

- Waste treatment methods: Dispose of in accordance with local, state/provincial and national regulations. Do not dispose into the environment or sanitary sewer.
- Contaminated packaging: Empty containers may contain residues — handle and dispose as hazardous waste or recycle after decontamination per local rules.

14. Transport Information — DETAILED (as requested)

Summary (international/common classification): Zinc sulphate monohydrate is commonly classified for transport as an Environmentally Hazardous Substance, Solid, N.O.S. (technical name: Zinc sulphate monohydrate) and assigned UN No. 3077, Class 9 (Miscellaneous dangerous substances and articles), Packing Group III. It is typically identified as a marine pollutant for sea transport.

14.1 UN Number (ID Number)

- UN 3077 (Environmentally Hazardous Substance, Solid, N.O.S. — technical name “Zinc sulphate monohydrate”).

14.2 Proper shipping name

- “ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc sulphate monohydrate)” — use technical name on transport documents as required.

14.3 Transport hazard class(es)

- Class: **9 (Miscellaneous hazardous material)** for DOT/ADR/IMDG/IATA. Label: Class 9 label.

14.4 Packing group

- Packing Group: **III** (generally assigned).

14.5 Environmental hazards

- **Marine pollutant:** Yes — product is typically listed as marine pollutant; avoid release to water and follow special marine transport requirements.

14.6 Special precautions & regulatory notes (practical guidance)

- Always include the **technical name** (“Zinc sulphate monohydrate”) on transport documents where regulated.
- **IMDG (sea freight)**: UN 3077; Proper Shipping Name as above; Class 9; PG III; EmS codes often F-A, S-F; Marine pollutant marking required. Check IMDG for special provisions and exact EmS codes for the current edition.
- **IATA/ICAO (air freight)**: Classified as Class 9, UN 3077; many airlines prohibit or restrict transport of environmentally hazardous solids by air — check IATA DGR and airline requirements. Use permitted quantity/packing instructions if allowed.
- **ADR/RID (road/rail in Europe)**: UN 3077, Class 9, PG III; classification code M7; follow ADR special provisions (e.g., 274, 335, 375, 601 as applicable).
- **DOT/TDG (USA/Canada)**: DOT typically assigns UN3077, Class 9, PG III and requires marine pollutant marking and appropriate documentation. Quantity-based reporting thresholds (e.g., RQ for certain jurisdictions) and bulk packaging provisions may apply.

14.7 Packaging, marking, labelling and segregation (practical checklist)

- Use **UN-approved packaging** suitable for Class 9, Packing Group III materials. Ensure packages are dry, secure and properly labeled.
- Mark as: UN3077, Proper shipping name, Class 9 label, “Marine Pollutant” mark where required. Include emergency contact and technical name on shipping papers.
- **Limited Quantity / Excepted Quantities**: Some modes allow limited quantity exemptions for small packages—check specific transport regulations (IATA DGR, IMDG, ADR, 49 CFR) for thresholds and packing instructions. Do not assume exemption — verify per current regulation and mode.

14.8 Emergency response & spill response in transport

- In case of transport incident, isolate area, avoid runoff to waterways, use appropriate PPE to contain and sweep up spilled material into recovery containers, prevent environmental release, notify local authorities and the competent transport authority. Follow local emergency response guidance (e.g., ERG where applicable) and the IMDG/IATA emergency procedures.

15. Regulatory Information

- Hazard classification and labeling are subject to local regulations (GHS). Example hazard statements: H302, H318, H410. Follow local chemical control laws, environmental regulations and reporting obligations for releases.
- Notable transport/regulatory references: UN 3077 listing and marine pollutant status for many jurisdictions — consult IMDG/IATA/ADR/49 CFR for precise obligations.

16. Other Information

- Disclaimer: This MSDS is intended to provide a summary of the hazards of the product and precautions for handling. The information contained here is believed to be true and correct to the best of our knowledge at the date of revision. However, no warranty, express or implied, is made. Users must satisfy themselves as to the suitability and completeness of this information for their own particular use. Consult local regulations and authorities for binding legal requirements.
- **MSDS Generate Date:** 20-05-2017
- **Revision Date:** 30-12-2024
- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.