

Material Safety Data Sheet (MSDS)

Product Name: Zinc Sulphate Monohydrate USP 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

Synonyms: White Vitriol, Zinc Sulfate Monohydrate

Chemical Formula: $\text{ZnSO}_4 \cdot \text{H}_2\text{O}$

Recommended Use: Pharmaceutical intermediate, nutritional supplement, laboratory reagent.

2. Hazards Identification

- **Classification (GHS):**
 - Acute Toxicity (Oral) – Category 4
 - Eye Irritation – Category 2A
 - Aquatic Acute – Category 1
- **Signal Word:** Warning
- **Hazard Statements:**

- Harmful if swallowed.
 - Causes serious eye irritation.
 - Very toxic to aquatic life.
 - **Precautionary Statements:**
 - Avoid release to environment.
 - Wash hands thoroughly after handling.
 - Wear protective gloves/eye protection.
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3. Composition / Information on Ingredients

Chemical Name: Zinc Sulphate Monohydrate

CAS Number: 7446-19-7

Molecular Weight: 179.47 g/mol

Purity: USP Grade ($\geq 99\%$)

4. First Aid Measures

- **Inhalation:** Move to fresh air. Seek medical attention if symptoms persist.
 - **Skin Contact:** Wash with soap and water. Remove contaminated clothing.
 - **Eye Contact:** Rinse cautiously with water for 15 minutes. Seek medical help.
 - **Ingestion:** Rinse mouth. Do not induce vomiting. Get medical advice immediately.
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5. Fire Fighting Measures

- **Suitable Extinguishing Media:** Water spray, CO₂, dry powder, foam.
 - **Special Hazards:** Non-combustible. Decomposes at high temperatures releasing sulfur oxides and zinc oxides.
 - **Protective Equipment:** Firefighters should wear self-contained breathing apparatus.
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6. Accidental Release Measures

- **Personal Precautions:** Avoid dust formation. Wear protective equipment.
 - **Environmental Precautions:** Prevent entry into sewers, waterways, or soil.
 - **Methods for Cleaning:** Sweep up carefully, avoid dust, place in labeled containers. Dispose according to regulations.
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7. Handling and Storage

- **Handling:** Avoid contact with skin, eyes, and clothing. Use in well-ventilated areas.
 - **Storage:** Store in a cool, dry place away from moisture. Keep container tightly closed.
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8. Exposure Controls / Personal Protection

- **Occupational Exposure Limits (OEL):** Not established for monohydrate.
 - **Engineering Controls:** Provide local exhaust ventilation.
 - **Personal Protective Equipment (PPE):**
 - Respiratory: Dust mask if ventilation inadequate.
 - Eye Protection: Safety goggles.
 - Skin Protection: Protective gloves and clothing.
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9. Physical and Chemical Properties

- Appearance: White crystalline powder
 - Odor: Odorless
 - Solubility: Soluble in water
 - Melting Point: > 100 °C (decomposes)
 - pH: ~4.5 (5% solution)
 - Bulk Density: 3.74 g/cm³
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10. Stability and Reactivity

- **Stability:** Stable under normal conditions.

- **Incompatible Materials:** Strong bases, reducing agents.
 - **Hazardous Decomposition Products:** Zinc oxides, sulfur oxides.
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11. Toxicological Information

- **Acute Toxicity (Oral):** LD50 (rat): ~ 1260 mg/kg
 - **Skin Irritation:** May cause mild irritation.
 - **Eye Irritation:** Causes serious irritation.
 - **Inhalation:** Dust may cause respiratory irritation.
 - **Chronic Effects:** Prolonged exposure may affect gastrointestinal tract.
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12. Ecological Information

- **Ecotoxicity:** Very toxic to aquatic life.
 - **Persistence/Degradability:** Non-biodegradable.
 - **Bioaccumulative Potential:** Low bioaccumulation.
 - **Mobility:** Soluble in water; may contaminate water sources.
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13. Disposal Considerations

- **Waste Disposal:** Dispose of in accordance with local, regional, national, and international regulations.
 - **Contaminated Packaging:** Dispose as per hazardous waste regulations.
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14. Transport Information (Detailed)

- **UN Number:** UN 3077
- **UN Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s. (contains Zinc Sulphate Monohydrate)
- **Transport Hazard Class:** 9 (Miscellaneous Dangerous Substances)
- **Packing Group:** III

- **Marine Pollutant:** Yes
 - **Environmental Hazards:** Classified as dangerous for the environment, especially aquatic life.
 - **Transport Precautions:**
 - Avoid release during transport.
 - Prevent packages from damage, moisture contact, or spillage.
 - Use sealed and properly labeled containers.
 - Transport only by trained personnel aware of emergency measures.
 - **ADR/RID (Road/Rail):** Hazard identification number: 90
 - **IMDG (Sea):** Classified as marine pollutant, stow away from food and feed.
 - **IATA (Air):** Handle as dangerous goods, avoid contact with moisture during transit.
 - **Special Notes:** Ensure compliance with international transport regulations to prevent environmental contamination.
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15. Regulatory Information

- Listed in international chemical inventories (TSCA, EINECS).
 - Subject to environmental and occupational safety regulations.
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16. Other Information

- The information provided is believed to be accurate but does not constitute a guarantee.
- Users are responsible for ensuring safe handling and compliance with applicable regulations.
- **MSDS Generate Date:** 20-05-2017
- **Revision Date:** 30-12-2024
- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.