

Material Safety Data Sheet (MSDS)

Product Name: Zinc Sulphate Heptahydrate 21%

MSDS Generate Date: 20-05-2017

Revision Date: 30-12-2024

Supplier:

Rawpharma Biz Pvt Ltd

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1. Identification of the Substance/Preparation and Company

- **Product Name:** Zinc Sulphate Heptahydrate 21%
- **Synonyms:** Zinc(II) sulfate heptahydrate
- **CAS Number:** 7446-20-0
- **Molecular Formula:** $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$
- **Molecular Weight:** 287.54 g/mol
- **Recommended Use:** Used in agriculture as a micronutrient fertilizer, pharmaceutical raw material, animal feed supplement, and industrial applications.

2. Hazards Identification

- **Classification (GHS):**
 - Acute Toxicity, Oral (Category 4)
 - Eye Irritation (Category 2A)

- Aquatic Acute Toxicity (Category 1)
 - Aquatic Chronic Toxicity (Category 1)
- **Signal Word:** Warning
- **Hazard Statements:**
 - H302: Harmful if swallowed.
 - H319: Causes serious eye irritation.
 - H400: Very toxic to aquatic life.
 - H410: Very toxic to aquatic life with long-lasting effects.
- **Precautionary Statements:**
 - P264: Wash hands thoroughly after handling.
 - P270: Do not eat, drink or smoke when using this product.
 - P273: Avoid release to the environment.
 - P301+P312: If swallowed, call a doctor if unwell.

3. Composition / Information on Ingredients

- **Substance:** Zinc Sulphate Heptahydrate 21%
- **CAS No.:** 7446-20-0
- **EINECS No.:** 231-793-3
- **Purity:** ≥ 99%

4. First Aid Measures

- **Inhalation:** Remove to fresh air. If breathing is difficult, seek medical advice.
- **Skin Contact:** Wash with soap and water. Remove contaminated clothing.
- **Eye Contact:** Rinse immediately with plenty of water for at least 15 minutes. Seek medical attention.
- **Ingestion:** Rinse mouth, do not induce vomiting. Seek immediate medical assistance.

5. Fire Fighting Measures

- **Suitable Extinguishing Media:** Water spray, foam, dry powder, CO₂.
- **Hazardous Decomposition Products:** Sulfur oxides, zinc oxides.
- **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and protective clothing.

6. Accidental Release Measures

- Avoid dust formation.
- Sweep up and collect in suitable containers.
- Prevent entry into drains and waterways.
- Use personal protective equipment.

7. Handling and Storage

- **Handling:** Avoid ingestion, inhalation, and contact with eyes. Use in well-ventilated areas.
- **Storage:** Store in a cool, dry, well-ventilated place away from incompatible materials such as strong bases and oxidizing agents.

8. Exposure Controls / Personal Protection

- **Exposure Limits:** Not established for Zinc Sulphate.
- **Engineering Controls:** Provide adequate ventilation.
- **Personal Protective Equipment (PPE):**
 - Respiratory Protection: Use NIOSH-approved respirator if dust forms.
 - Eye Protection: Safety goggles.
 - Skin Protection: Gloves and protective clothing.

9. Physical and Chemical Properties

- **Appearance:** White crystalline solid

- **Odor:** Odorless
 - **Solubility:** Soluble in water
 - **Melting Point:** ~100 °C (loses water of crystallization)
 - **Boiling Point:** Not applicable
 - **Density:** 1.97 g/cm³
 - **pH (5% solution):** ~4.0–5.5
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10. Stability and Reactivity

- **Stability:** Stable under normal storage conditions.
 - **Incompatible Materials:** Strong bases, oxidizing agents.
 - **Hazardous Decomposition Products:** Zinc oxide, sulfur oxides.
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11. Toxicological Information

- **Acute Toxicity (Oral, Rat):** LD₅₀ ~ 2150 mg/kg
 - **Effects of Exposure:** Harmful if swallowed, causes eye irritation, prolonged exposure may affect gastrointestinal tract and respiratory system.
 - **Chronic Effects:** Prolonged ingestion may cause zinc accumulation and systemic effects.
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12. Ecological Information

- **Aquatic Toxicity:** Very toxic to aquatic organisms.
 - **Persistence & Degradability:** Inorganic compound, not biodegradable.
 - **Bioaccumulation Potential:** Low potential for bioaccumulation.
 - **Environmental Precautions:** Prevent contamination of soil and water.
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13. Disposal Considerations

- Dispose of contents/container in accordance with local, regional, and national regulations.
- Avoid release into the environment.

14. Transport Information (Detailed)

- **UN Number:** UN 3077
- **Proper Shipping Name:** Environmentally Hazardous Substance, Solid, N.O.S. (Zinc Sulphate Heptahydrate)
- **Transport Hazard Class:** 9 (Miscellaneous dangerous substances)
- **Packing Group:** III
- **Label:** Environmentally Hazardous / Class 9
- **Marine Pollutant:** Yes
- **Land Transport (ADR/RID):**
 - Hazard Class: 9
 - Packing Group: III
 - Environmental Hazards: Yes
- **Sea Transport (IMDG):**
 - UN Number: 3077
 - Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S.
 - Class: 9
 - Packing Group: III
 - Marine Pollutant: Yes
- **Air Transport (IATA/ICAO):**
 - UN Number: 3077
 - Class: 9
 - Packing Group: III
 - Special Precautions: Avoid release into environment, handle with protective packaging.
- **Transport in Bulk:** Not applicable.
- **Additional Information:** Product must be transported in well-sealed bags/containers. Prevent moisture ingress and mechanical damage during transit.

15. Regulatory Information

- Classified under GHS and EU regulations as hazardous to health and the environment.
- Follow all local, national, and international regulations for handling and transport.

16. Other Information

- This MSDS has been prepared based on the best knowledge available at the time of revision.
- The product should be used only for intended applications.
- Users are responsible for ensuring safe conditions of use and compliance with applicable laws.
- **MSDS Generate Date:** 20-05-2017
- **Revision Date:** 30-12-2024
- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.