

## Material Safety Data Sheet (MSDS) for Celestine (Celestite, SrSO<sub>4</sub>)

### 1. Product Identification

- **Product Name:** Celestine (Celestite)
- **Chemical Formula:** SrSO<sub>4</sub>
- **CAS Number:** 7759-02-6
- **Supplier:** ATDM
- **Origin:** Iran (Supplied from Dubai)

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### 2. Composition & Information on Ingredients

| Component                          | Chemical Formula               | Percentage (%) |
|------------------------------------|--------------------------------|----------------|
| Strontium Sulfate                  | SrSO <sub>4</sub>              | 90-98%         |
| Barium Sulfate                     | BaSO <sub>4</sub>              | 1-5%           |
| Calcium Sulfate                    | CaSO <sub>4</sub>              | 1-3%           |
| Silica (Quartz, SiO <sub>2</sub> ) | SiO <sub>2</sub>               | ≤ 1%           |
| Iron Oxide                         | Fe <sub>2</sub> O <sub>3</sub> | ≤ 0.5%         |

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### 3. Hazards Identification

- **GHS Classification:** Non-hazardous
- **Potential Health Effects:**
  - **Inhalation:** May cause minor respiratory irritation with prolonged exposure.
  - **Skin Contact:** Non-irritant under normal conditions.
  - **Eye Contact:** Dust may cause slight irritation.
  - **Ingestion:** Non-toxic in small amounts but not recommended.
- **NFPA Ratings:**
  - **Health:** 1 (Slight hazard)
  - **Flammability:** 0 (Non-flammable)
  - **Reactivity:** 0 (Stable)

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### 4. First Aid Measures

- **Inhalation:** Move to fresh air. Seek medical attention if breathing difficulty occurs.
- **Skin Contact:** Wash with soap and water. No serious effects expected.

- **Eye Contact:** Rinse eyes with water for 15 minutes. Seek medical help if irritation persists.
  - **Ingestion:** Rinse mouth with water. Seek medical attention if symptoms develop.
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## 5. Firefighting Measures

- **Flammability:** Non-flammable
  - **Suitable Extinguishing Media:** Water, CO<sub>2</sub>, foam, or dry chemical
  - **Hazardous Combustion Products:** None
  - **Protective Equipment:** Standard firefighting gear
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## 6. Accidental Release Measures

- **Personal Protection:** Wear a dust mask and safety goggles when handling large amounts.
  - **Cleanup Methods:** Sweep up and place in a suitable container for disposal. Avoid dust generation.
  - **Environmental Precautions:** Prevent excessive dust release into the air.
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## 7. Handling & Storage

- **Handling:**
    - Avoid excessive dust generation.
    - Use appropriate ventilation when working with large quantities.
  - **Storage:**
    - Keep in a dry, well-ventilated area.
    - Store in sealed containers to prevent moisture absorption.
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## 8. Exposure Controls & Personal Protection

- **Occupational Exposure Limits:**
    - OSHA PEL (Total Dust): 15 mg/m<sup>3</sup>
    - ACGIH TLV (Respirable Dust): 5 mg/m<sup>3</sup>
  - **Personal Protective Equipment (PPE):**
    - **Respiratory Protection:** Use an N95 dust mask if airborne dust is present.
    - **Eye Protection:** Safety glasses or goggles.
    - **Skin Protection:** Gloves recommended for prolonged handling.
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## 9. Physical & Chemical Properties

| Property              | Value                                 |
|-----------------------|---------------------------------------|
| Appearance            | White, blue, gray crystalline mineral |
| Odor                  | Odorless                              |
| Density               | 3.9–4.0 g/cm <sup>3</sup>             |
| Solubility in Water   | Slightly soluble                      |
| Hardness (Mohs Scale) | 3.0–3.5                               |
| Melting Point         | 1,600°C                               |
| pH                    | Neutral                               |

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## 10. Stability & Reactivity

- **Stability:** Stable under normal conditions
  - **Reactivity:** Non-reactive with most chemicals
  - **Incompatible Materials:** Strong acids (may release toxic gases)
  - **Decomposition Products:** Strontium oxide (SrO) and sulfur dioxide (SO<sub>2</sub>) at extremely high temperatures
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## 11. Toxicological Information

- **Acute Toxicity:** Non-toxic under normal exposure levels
  - **Carcinogenicity:** Not classified as carcinogenic by OSHA, IARC, or NTP
  - **Chronic Effects:** Long-term exposure to dust may cause mild lung irritation
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## 12. Ecological Information

- **Environmental Impact:** Minimal
  - **Aquatic Toxicity:** Non-toxic but avoid excessive discharge into waterways
  - **Biodegradability:** Naturally occurring mineral; does not degrade
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## 13. Disposal Considerations

- **Waste Disposal Method:** Dispose of in accordance with local environmental regulations.
  - **Recycling:** Possible for industrial applications.
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#### 14. Transport Information

- **UN Number:** Not classified as hazardous
  - **Hazard Class:** Non-hazardous
  - **Packing Group:** Not regulated
  - **Shipping Label:** None required
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#### 15. Regulatory Information

- **OSHA Hazard Classification:** Non-hazardous
  - **TSCA (USA):** Listed
  - **REACH (EU):** Compliant
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#### 16. Other Information

- **Recommended Use:** Industrial applications including drilling, glass, and ceramics
- **Supplier Contact:** ATDM (Dubai, UAE)