

Material Safety Data Sheet (MSDS)

Barytes (Barium Sulphate)

Chemical Name: Barium Sulphate (BaSO₄) | CAS No. 7727-43-7

1. Identification of the Substance and Supplier

Product Name	Barytes (Barium Sulphate)
Chemical Formula	BaSO ₄
CAS No.	7727-43-7
Synonyms	Barytes, baryte, barite, barium sulfate, blanc fixe (synthetic)
Product Use	Drilling fluids, paints & coatings, radiation shielding, rubber & plastics filler
Supplier	Ochnology Solution Pvt. Ltd., B-153, Sector-4 Defence Colony, Dehradun, Uttarakhand, India – 248001
Contact	projects@ochnology.com +91 9286823642/43

2. Hazards Identification

GHS Classification: Barium sulphate is not classified as hazardous under GHS (insoluble, low toxicity). Dust may cause mechanical irritation. **Note:** soluble barium compounds are toxic – this product is the insoluble sulphate.

- Barium sulphate (insoluble) is not classified as a hazardous substance under GHS
- Dust may cause mechanical irritation to eyes, skin, and respiratory tract
- Prolonged inhalation of dust may cause baritosis (a benign, non-fibrotic pneumoconiosis)
- Soluble barium salts are toxic; this product is the insoluble sulphate with very low solubility
- May contain trace free crystalline silica depending on source

3. Composition / Information on Ingredients

Component	CAS No.	Concentration
Barium Sulphate (BaSO ₄)	7727-43-7	>90%
Free Crystalline Silica (Quartz)	14808-60-7	Variable (typically low)
Iron & other minerals	Various	Balance

4. First-Aid Measures

Inhalation: Move to fresh air. Seek medical attention if irritation or breathing difficulty persists.

Skin Contact: Wash with soap and water. Dust may cause mild mechanical abrasion.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical attention if irritation persists.

Ingestion: Rinse mouth with water. Barium sulphate is insoluble and poorly absorbed. Seek medical attention if discomfort occurs.

5. Fire-Fighting Measures

- Non-combustible material; does not present a fire or explosion hazard
- Use extinguishing media appropriate to the surrounding fire
- No special protective equipment required for the material itself
- Firefighters should wear standard protective gear for the surrounding fire

6. Accidental Release Measures

- Avoid generating airborne dust during clean-up
- Collect mechanically (sweep or vacuum) into suitable containers
- Wear appropriate PPE (dust mask, goggles, gloves) during clean-up
- Prevent large quantities from entering drains or waterways

7. Handling and Storage

- Avoid dust generation; provide adequate ventilation
- Use appropriate PPE when handling
- Store in a dry, covered area protected from moisture
- Keep away from strong acids and incompatible materials

8. Exposure Controls / Personal Protection

- Barium sulphate (inhalable / total dust): 10 mg/m³; respirable: 5 mg/m³ – typical reference values
- Respirable crystalline silica (if present) OEL: 0.05 mg/m³ (8-hr TWA) – typical reference
- Provide local exhaust ventilation where dust is generated
- Respiratory protection (N95/P2), safety goggles, gloves, and suitable work clothing

9. Physical and Chemical Properties

Property	Value
Appearance	White to off-white / grey powder or granules
Odour	Odourless
pH	Approx. 6 – 8 (neutral; insoluble)
Melting Point	Approx. 1,580°C
Solubility in Water	Practically insoluble (~2.4 mg/L)
Specific Gravity	Approx. 4.2 – 4.5

10. Stability and Reactivity

- Stable under normal conditions of storage and use
- Non-reactive; very low solubility and high chemical inertness
- Incompatible with strong acids and strong reducing agents (at high temperature)
- No hazardous polymerization occurs

11. Toxicological Information

- Very low toxicity due to insolubility; not significantly absorbed if ingested
- Used medically as an X-ray contrast medium owing to its insolubility and safety
- Prolonged dust inhalation may cause baritosis (benign, reversible pneumoconiosis)
- Soluble barium compounds are toxic – this hazard does not apply to insoluble BaSO₄

12. Ecological Information

- Not classified as hazardous to the aquatic environment (insoluble)
- Very low solubility limits bioavailability and bioaccumulation
- No significant ecological effects expected under normal use
- Avoid release of large quantities of dust into the environment

13. Disposal Considerations

- Dispose of in accordance with local, state, and national regulations
- Inert material; may be disposed of as non-hazardous solid waste where permitted
- Avoid dust release during disposal; preferably reuse or recycle

14. Transport Information

UN Number	Not regulated
Proper Shipping Name	Not classified as dangerous goods (barium sulphate)
Hazard Class	Not applicable
Packing Group	Not applicable
Remarks	Not regulated for transport by road, rail, sea, or air

15. Regulatory Information

- Barium sulphate not classified as hazardous under GHS
- Distinguish from soluble barium compounds, which are regulated as toxic
- Listed on major chemical inventories as barium sulphate (CAS 7727-43-7)

16. Other Information

This MSDS has been prepared in accordance with the GHS 16-section format. The low hazard of this product is due to the insolubility of barium sulphate; soluble barium salts are toxic and are not the subject of this sheet. Information relates to the specific material designated.

Disclaimer: The information in this MSDS is provided in good faith and is based on current knowledge. It is intended as a guide for safe handling, use, storage, and disposal, and is not a warranty of quality. Ochnology Solution Pvt. Ltd. accepts no liability for loss or damage arising from its use. Users are responsible for ensuring suitability and safety for their own conditions of use.