

Material Safety Data Sheet (MSDS)

Product Name: Cobalt Sulphate

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:** Cobalt Sulphate
- **Synonyms:** Sulfuric acid, cobalt (II) salt, Cobaltous sulphate
- **CAS No.:** 10124-43-3
- **EINECS No.:** 233-334-2
- **Molecular Formula:** $\text{CoSO}_4 \cdot x\text{H}_2\text{O}$ (usually heptahydrate, $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$)
- **Molecular Weight:** 281.10 g/mol (heptahydrate)
- **Recommended Uses:** Used in electroplating, pigments, catalysts, fertilizers, and laboratory reagents.
- **Restrictions on Use:** For industrial use only; not for pharmaceutical or food applications.

2. Hazards Identification

- **Classification (GHS):**
 - Acute toxicity (Oral): Category 4
 - Skin sensitization: Category 1
 - Carcinogenicity: Category 1B
 - Reproductive toxicity: Category 1B
 - Specific target organ toxicity (repeated exposure): Category 1
- **Signal Word: Danger**
- **Hazard Statements:**
 - Harmful if swallowed.
 - May cause allergic skin reaction.
 - May cause cancer by inhalation.
 - May damage fertility or the unborn child.
 - Causes damage to organs through prolonged or repeated exposure.
- **Precautionary Statements:**
 - Avoid breathing dust/fume.
 - Wear protective gloves, clothing, and eye/face protection.
 - Wash hands thoroughly after handling.
 - Do not eat, drink, or smoke while using this product.

3. Composition/Information on Ingredients

- **Chemical Name:** Cobalt Sulphate Heptahydrate
- **CAS No.:** 10026-24-1 (heptahydrate), 10124-43-3 (anhydrous)
- **Purity:** ≥ 98%

4. First Aid Measures

- **Inhalation:** Remove person to fresh air. Seek medical attention if breathing difficulty occurs.
- **Skin Contact:** Wash thoroughly with soap and water. Remove contaminated clothing. Seek medical advice if irritation persists.
- **Eye Contact:** Rinse cautiously with water for several minutes. Seek medical attention immediately.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek immediate medical attention.

5. Fire Fighting Measures

- **Suitable Extinguishing Media:** Water spray, dry chemical, carbon dioxide, or foam.
- **Hazards from Combustion Products:** Emits toxic fumes of sulfur oxides and cobalt oxides when heated.
- **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and protective clothing.

6. Accidental Release Measures

- Avoid dust formation. Use proper personal protective equipment.
- Sweep up material carefully without generating dust.
- Place in appropriate labeled container for disposal.
- Prevent entry into drains or natural water sources.

7. Handling and Storage

- **Handling:** Avoid contact with skin, eyes, and clothing. Use in well-ventilated areas.
- **Storage:** Store in tightly closed containers in a cool, dry, and well-ventilated place. Keep away from incompatible materials such as strong oxidizers.

8. Exposure Controls/Personal Protection

- **Occupational Exposure Limits (OEL):**
 - OSHA PEL: 0.1 mg/m³ (as Co, TWA)

- ACGIH TLV: 0.02 mg/m³ (as Co, TWA)
 - **Engineering Controls:** Use local exhaust ventilation.
 - **Personal Protection:**
 - Respiratory: Use approved respirators if exposure exceeds limits.
 - Hands: Protective gloves.
 - Eyes: Safety goggles.
 - Skin: Protective clothing and footwear.
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9. Physical and Chemical Properties

- Appearance: Red to pink crystalline solid
 - Odor: Odorless
 - Solubility: Soluble in water
 - pH: Acidic in solution
 - Melting Point: 96.8 °C (heptahydrate loses water)
 - Boiling Point: Decomposes before boiling
 - Density: ~1.95 g/cm³
 - Molecular Formula: CoSO₄·7H₂O
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10. Stability and Reactivity

- **Stability:** Stable under normal conditions.
 - **Conditions to Avoid:** Heat, moisture, and incompatible materials.
 - **Incompatible Materials:** Strong oxidizing agents, strong acids.
 - **Hazardous Decomposition Products:** Sulfur oxides, cobalt oxides.
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11. Toxicological Information

- **Acute Toxicity:** LD50 (oral, rat) ~ 358 mg/kg

- **Skin Irritation:** May cause skin sensitization.
- **Eye Irritation:** Causes eye irritation.
- **Carcinogenicity:** Classified as a human carcinogen (IARC Group 2B).
- **Reproductive Toxicity:** Suspected to cause reproductive harm.

12. Ecological Information

- **Ecotoxicity:** Toxic to aquatic organisms; may cause long-term adverse effects.
- **Persistence & Degradability:** Not biodegradable.
- **Bioaccumulation:** Cobalt compounds may bioaccumulate.
- **Mobility in Soil:** Soluble in water, may leach into groundwater.

13. Disposal Considerations

- Dispose of contents/container in accordance with local/regional/national regulations.
- Do not release into environment.
- Waste should be treated as hazardous.

14. Transport Information (Detailed)

UN Number: UN 3077

UN Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S.

(Contains: Cobalt Sulphate)

- **Transport Hazard Class:** 9 (Miscellaneous Dangerous Substances and Articles)
- **Packing Group:** III
- **Environmental Hazards:** Yes (Marine Pollutant)
- **Special Precautions for User:**
 - Avoid release into the environment.
 - Ensure packaging is intact and sealed.

- Handle with care to prevent spills.
 - **ADR/RID (Road/Rail):**
 - UN 3077, Class 9, Packing Group III
 - Label: Miscellaneous Dangerous Goods (Class 9) + Environmentally Hazardous
 - **IMDG (Sea Transport):**
 - UN 3077, Class 9, PG III
 - Marine Pollutant: Yes
 - EMS Code: F-A, S-F
 - Proper stowage to prevent water contamination
 - **IATA (Air Transport):**
 - UN 3077, Class 9, PG III
 - Packaging Instructions: 956 (Passenger), 962 (Cargo)
 - Avoid release during air shipment
 - **Transport in Bulk (Annex II of MARPOL & IBC Code):** Not applicable.
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15. Regulatory Information

- **Regulation (EC) No. 1272/2008 (CLP):** Classified as hazardous.
 - **OSHA HazCom Standard:** Hazardous chemical.
 - **IARC:** Group 2B carcinogen.
 - **REACH Registration:** Listed.
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16. Other Information

- **Disclaimer:** The information provided is based on current knowledge and is intended to describe the product for safety, health, and environmental purposes only. It should not be construed as guaranteeing any specific property of the product.
- **MSDS Generate Date:** 20-05-2017

- **Revision Date:** 30-12-2024
- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.