

MATERIAL SAFETY DATA SHEET



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CALCIUM SULPHATE (DIHYDRATE), EXTRA PURE

Section 1: Chemical Product Identification

Product Name: CALCIUM SULPHATE (DIHYDRATE), EXTRA PURE.

Product Code: 164.

CAS#: 10101-41-4.

Synonym: Precipitated calcium sulfate; Sulfuric acid, calcium (2+) salt, dihydrate.

Chemical Name: Calcium sulfate Dihydrate.

Chemical Formula: $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$.

Formula Weight: 172.17.

Section 2: Composition and Information on Ingredients

Composition:

Name: Calcium sulfate Dihydrate.

Toxicological Data on Ingredients: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
This substance is not classified as dangerous according to Directive 67/548/EEC.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not Available.

MUTAGENIC EFFECTS: Not Available.

TERATOGENIC EFFECTS: Not Available.

DEVELOPMENTAL TOXICITY: Not Available. The substance may be toxic to lungs, upper respiratory tract. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Serious Inhalation: Not Available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not Available.

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Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not Applicable.

Flash Points: Not Applicable.

Flammable Limits: Not Applicable.

Products of Combustion: Sodium oxides, Tungsten oxide.

Fire Hazards in Presence of Various Substances: Not Applicable.

Explosion Hazards in Presence of Various Substances: Not Available.

Risks of explosion of the product in presence of mechanical impact: Not Available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Calcium Sulfate mixed with phosphorus will ignite at high temperatures. When primed at high temperature with potassium nitrate-calcium silicide mixture, calcium sulfate mixed with excess red phosphorus will burn. When heated to decomposition it emits toxic fumes of oxides of sulfur and calcium

Special Remarks on Explosion Hazards: Contact with diazomethane causes an exothermic reaction which may lead to detonation. Many metal oxo-compounds (nitrates, oxides, and particularly sulfates) and sulfides are reduced violently or explosively (undergo a thermite reaction) on heating an intimate mixture with aluminum powder to a suitably high temperature to initiate the reaction.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions: Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: TWA: 15 (mg/m³) from OSHA (PEL) [United States] Inhalation Total.

TWA: 5 (mg/m³) from OSHA (PEL) [United States] Inhalation Respirable.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid, powder.

Odor: Odourless.

Taste: Not Available.

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Molecular Weight: 172.17.

Color: White.

pH: Not Available.

Boiling Point: Not Available.

Melting Point: Not Available.

Critical Temperature: Not Available.

Specific Gravity: ca. 2.32.

Vapor Pressure: Not Available.

Vapor Density: Not Available.

Volatility: Not Available.

Odor Threshold: Not Available.

Water/Oil Dist. Coeff. : Not Available.

Ionicity (in Water): Not Available.

Dispersion Properties: Not Available

Solubility: Very slightly soluble in water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials.

Incompatibility with various substances: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Loses 1/2 water at 128°C and 2 waters at 163°C. Incompatible with Diazomethane, aluminum, magnesium, phosphorous. The dihydrate form cannot set with water. Hygroscopic; keep container tightly closed.

Special Remarks on Corrosivity: Not Available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Ingestion, Inhalation.

Toxicity to Animals:

LD₅₀: Not Available.

Chronic Effects on Humans: May cause damage to the following organs: lungs, upper respiratory tract.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, inhalation (lung irritant).

Special Remarks on Toxicity to Animals: The probable lethal oral human dose has been estimated to be 0.5 to 5 g/kg.

Special Remarks on Chronic Effects on Humans: May affect genetic material. May cause adverse reproductive effects based on animal data. Animal studies showed post-implantation mortality effects on fertility.

Special Remarks on other Toxic Effects on Humans: May cause respiratory tract irritation. May be harmful if swallowed. May cause gastrointestinal tract irritation with nausea, Hypermotility and diarrhea. It may affect behavior/nervous system(somnolence, excitement, muscle weakness, convulsions, ataxia), cardiovascular system, respiration (respiratory depression, dyspnea), and blood.

Section 12: Ecological Information

Ecotoxicity: Not Available.

BOD and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

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Section 13: Disposal Considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not Applicable.

Special Provisions for Transport: Not Available.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Exempt from TSCA 8(b) Inventory since it is a hydrate.

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): Not Applicable.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment: Gloves, Lab coat, Safety glasses, Dust respirator - be sure to use an approved/certified respirator or equivalent.

Section 16: Other Information

References: Full text of H AND R-Statements.

Not Applicable.

Other Special Considerations: Not Available.

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