



LABORATORY CHEMICALS AND CONSUMABLES

# MATERIAL SAFETY DATA SHEET

## CALCIUM SULPHATE DIHYDRATE

### 1. Chemical Product and Company information.

**Product name:** Calcium Sulphate Dihydrate

**Contact Information:**

Radchem cc  
PO Box 166982  
Brackendowns  
Alberton 1454  
Telephone : **011 867 3726 / 2864**

### 2. Hazard Identification

Slightly hazardous in case of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion

### 3. Composition / information on ingredients

**CAS #:** 10101-41-4

**Synonym:** Calcium (II) sulphate, Dihydrate; precipitated calcium sulphate; Sulphuric acid, calcium (2+) salt, Dihydrate

**Chemical Name:** Calcium Sulphate, Dihydrate

**Chemical Formula:** CaCO<sub>3</sub>

### 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. Cold water may be used. WARM water MUST be used. Get medical attention.

**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 immediate medical attention.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.



**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.

## **5. Fire-fighting measures**

**Flammability of the Product:** Non-flammable

**Fire Hazards in Presence of Various Substances:** Not applicable

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

**Fire Fighting Media and Instructions:** Not applicable

**Special Remarks on Fire Hazards:** Calcium Sulphate mixed with phosphorus will ignite at high temperatures. When primed at high temperature with potassium nitrate-calcium silicide mixture, calcium sulphate mixed with excess red phosphorus will burn. When heated to decomposition it emits toxic fumes of oxides of sulphur 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 sulphates) and sulphides are reduced violently or explosively (undergo a thermite reaction) on heating an intimate mixture with aluminium powder to a suitably high temperature to initiate the reaction. A violent or explosive reaction can occur upon heating when calcium sulphate is mixed with aluminium powder. Containers may explode when heated.

## **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.

## **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

## **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:** Safety glasses. 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.

### **9. Physical and chemical properties**

**Physical state and appearance:** Solid (hygroscopic crystals; lumps; powder)

**Odour:** Odourless

**Taste:** Not available

**Colour:** Colourless. White

**Boiling Point:** Not available

**Melting Point:** Not available.

**Critical Temperature:** Not available

**Specific Gravity:** 2.32 (Water = 1)

**Vapour Density:** Not available

**Volatility:** Not available

**Odour Threshold:** Not available

**Ionicity (in Water):** Not available.

**Dispersion Properties:** Not available

**Solubility:** Very slightly soluble in cold water. Solubility in water: 0.21 g/100 g water @ 20 deg. C; 0.24 g/100 g water @ 25 deg. C. Very soluble in glycerol. Practically insoluble in most organic solvents.

### **10. Stability and reactivity**

**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:** Hygroscopic; keep container tightly closed. Loses 1/2 water at 128 C and 2 waters at 163 C. Incompatible with Diazomethane, aluminium, magnesium, phosphorous. The Dihydrate form cannot set with water. Hygroscopic; keep container tightly closed.

**Special Remarks on Corrosivity:** Not available

**Polymerization:** Will not occur.

### **11. Toxicological information**

**Routes of Entry:** Inhalation. Ingestion

**Toxicity to Animals:** LD50: Not available. LC50: 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:** Not available

**Special Remarks on other Toxic Effects on Humans:** Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: Causes eye irritation. Inhalation: Causes respiratory tract and mucous membrane irritation. Symptoms may include coughing, rhinitis, epistaxis, sneezing, pneumonia, laboured breathing. Ingestion: Because it hardens quickly after absorbing moisture, its ingestion may result in obstruction. Chronic Potential Health Effects: Inhalation: Repeated or prolonged inhalation may cause chronic rhinitis, laryngitis, pharyngitis, impaired sense of smell and taste, bleeding from the nose, and reactions of tracheal and bronchial membranes. It may also cause unspecified effects on the lungs.

## **12. Ecological information**

**Ecotoxicity:** Not available

**BOD5 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 products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available

## **13. Disposal considerations**

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

## **14. Transport information**

**DOT Classification:** Not a DOT controlled material

**Identification:** : Not applicable

**Special Provisions for Transport:** Not applicable

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