



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

MATERIAL SAFETY DATA SHEETS

SECTION I

PRODUCT AND COMPANY IDENTIFICATION

Product: Calcium sulfate dihydrate
This MSDS is valid for all grades and catalog #'s

Synonyms: Calcium (II) sulfate, dehydrate; precipitated calcium sulfate; Sulfuric acid, calcium (2+) salt, dihydrate

Formula: CaSO₄.2H₂O

Manufacturer: PHARMCO-AAPER
58 Vale Road
Brookfield, Connecticut 06804, USA
Phone (203) 740-3471
Fax (203) 740-3481

1101 Isaac Shelby Drive
Shelbyville, KY 40065
Phone (502) 633-0650
Fax (502) 633-0685

Emergency Contact:
CHEMTREC 1-800-424-9300

SECTION II

COMPOSITION /INFORMATION ON INGREDIENTS

% by weight	Material	CAS #	TLV/PEL	LC50/LD50
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100	Calcium sulfate dihydrate	10101-41-4	TWA: 15 (mg/m ³) from OSHA (PEL) [United States] Inhalation Total. TWA: 5 (mg/m ³) from OSHA (PEL) [United States] Inhalation Respirable TWA: 10 from ACGIH (TLV) [United States] [1995] TWA: 10 (mg/m ³) [United Kingdom (UK)] Inhalation Total. TWA: 4 (mg/m ³) [United Kingdom (UK)] Inhalation Respirable.	Not Available
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SECTION III

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 IV

FIRST AID

Obtain medical attention for all cases of over-exposure.

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.

Hazardous 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.

Hazardous 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.

Hazardous Ingestion: Not available.

SECTION V

FIRE FIGHTING MEASURES

Fire:

Flammability of the Product: Non-flammable.

Auto-Ignition temperature: Not applicable

Flash point: Not applicable

Flammable limits: Not applicable

Products of Combustion: Not available

Fire Hazards: Not applicable

Explosion Hazards: 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 Extinguishing Media: Not applicable.

Special Information: 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. 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. A violent or explosive reaction can occur upon heating when calcium sulfate is mixed with aluminum powder. Containers may explode when heated.

SECTION VI

SPILL/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 VII

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 VIII

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.

Exposure Limits: TWA: 15 (mg/m³) from OSHA (PEL) [United States] Inhalation Total. TWA: 5 (mg/m³) from OSHA (PEL) [United States] Inhalation Respirable. TWA: 10 (mg/m³) from ACGIH (TLV) [United States] TWA: 10 (mg/m³) [United Kingdom (UK)] Inhalation Total. TWA: 4 (mg/m³) [United Kingdom (UK)] Inhalation Respirable. Consult local authorities for acceptable exposure limits.

SECTION IX

PHYSICAL AND CHEMICAL PROPERTIES

Physical State/Appearance: Solid (hygroscopic crystals; lumps; powder)

Molecular Weight: 172.17 g/mole

Odor: Odorless.

Taste: Not available.

Color: Colorless. White.

pH (1% Solution in Water): Not available.

Boiling Point: Not available.

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: 2.32 (Water = 1)

Vapor Pressure (mm Hg): Not applicable.

Vapor Density (Air=1): Not available.

Volatility: Not available.

Odor Threshold: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Water/Oil Dist. Coefficient: 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.

SECTION X

STABILITY/REACTIVITY INFORMATION

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibilities: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Information: Hygroscopic; keep container tightly closed. 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.

SECTION XI

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

Special Information on Chronic Effects/Toxicity 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, labored 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.

**SECTION XII
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 Information on Products of Biodegradation: Not available.

**SECTION XIII
DISPOSAL CONSIDERATIONS**

Waste Disposal: Recycle to process, if possible. Consult your local or regional authorities.

**SECTION XIV
TRANSPORTATION INFORMATION**

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

UN: Not applicable.

Special Provisions for Transport: Not applicable.

**SECTION XV
REGULATORY INFORMATION**

Federal and State Regulations: Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE**

Pennsylvania Right-To-Know, Hazardous substance List, Hazardous Substances and Special hazardous Substances on the list must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Massachusetts Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are:

NONE

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: **No products were found.**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: **No products were found.**

Other Classifications:

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

DSCL (EEC): This product is not classified according to the EU regulations.

Protective Equipment: Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

References: Not available.

Other Special Considerations: Not available.

The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.