

# CALCIUM NITRATE

## SECTION 1. IDENTIFICATION

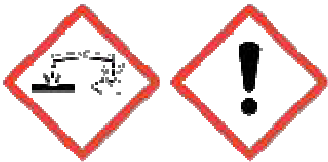
<b>Product Identifier</b>	CALCIUM NITRATE
<b>Other Means of Identification</b>	Calcium Ammonium Nitrate
<b>Product Family</b>	Calcium Source
<b>Recommended Use</b>	Drilling Fluid Additive.
<b>Supplier</b>	Bri-Chem Supply Ltd., Bay 4, 5510 - 3rd Street SE, Calgary, Alberta, T2H 1J9, Bri-Chem Supply, 403-252-5904, <a href="http://www.brichemsupply.com">www.brichemsupply.com</a>
<b>Emergency Phone No.</b>	ChemTrec, (800) 424-9300, 24/7

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Acute toxicity (Oral) - Category 4; Serious eye damage/eye irritation - Category 1

### GHS Label Elements



Danger  
Harmful if swallowed.  
Causes serious eye damage.

### Other Hazards

Hazard Not Otherwise Classified (HNOC): Product forms slippery surface when combined with water.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Nitric acid, ammonium calcium salt	15245-12-2	84	
Water	7732-18-5	16	

### Notes

This product is best described as "pentacalcium ammonium nitrate decahydrate".

Ammonium-N (NH<sub>4</sub>-N): 1.1%

Nitrate-N (NO<sub>3</sub>-N): 14.4%

Total N: 15.5%

Calcium (Ca): 18.8%

## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

If dust has been inhaled, blow nose thoroughly and rinse mouth with water. Establish open airways.

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**Skin Contact**

Wash with soap and water.

**Eye Contact**

Flush with large amounts of water (open eyelids) for at least 15 minutes. If eye irritation persists, get medical advice/attention.

**Ingestion**

If swallowed, give patient 1-2 glasses of water then induce vomiting if the patient is conscious. Never give anything by mouth to an unconscious or convulsing victim. Get prompt medical attention.

**First-aid Comments**

General: immediately move the patient from the source of exposure. Move to fresh air, keep the patient warm and at rest. If unconscious: loosen tight clothing, place in stable position on one side. If heart stops, provide cardiac massage. Give artificial respiration if breathing has stopped.

**Most Important Symptoms and Effects, Acute and Delayed**

If on skin:

May cause mild irritation.

If in eyes:

May cause mild irritation.

**Immediate Medical Attention and Special Treatment****Special Instructions**

In an emergency, contact the national Poison Information Centre. In extreme cases, intake may cause methemoglobin formation (due to bacterial reduction of nitrate to nitrite in the gastro-intestinal system) and cyanosis. Inhalation of gaseous nitrogen oxides may cause lung edema. Nitrogen oxides are only slightly soluble in water and therefore penetrate to the alveoli. Symptomatic treatment.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use water to extinguish.

**Specific Hazards Arising from the Chemical**

Does not burn.

The product itself is not combustible but it may intensify the combustion of organic material.

**Special Protective Equipment and Precautions for Fire-fighters**

A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions, Protective Equipment, and Emergency Procedures**

Avoid contact with skin or inhalation of spillage, dust or vapour. Use the protective measures listed in sections 7 and 8.

**Environmental Precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and Materials for Containment and Cleaning Up**

Collect by mechanical means (shovel, sweep, vacuum, etc.). This product may be used as fertilizer under suitable conditions. After cleaning, flush away traces with water. Dispose of in accordance with local regulations for waste handling (section 13).

**SECTION 7. HANDLING AND STORAGE****Precautions for Safe Handling**

Avoid creating dust conditions and prevent wind dispersal. Avoid breathing dust.

It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Wash contaminated clothing before re-use. Ensure eyewash facilities are located close to the working environment.

**Conditions for Safe Storage**

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Product is hygroscopic (absorbs water). The product should be stored well-protected against moisture.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit for nuisance particulates. 10 mg/m<sup>3</sup> (total dust), 5 mg/m<sup>3</sup> (respirable dust). Wash hands after using the product.

### Appropriate Engineering Controls

General ventilation is usually adequate.

### Individual Protection Measures

#### Eye/Face Protection

Wear dust proof goggles/face shield if dust formation is possible.

#### Skin Protection

Wear protective clothing as required to prevent contact. Wash contaminated clothing with soap and water, dry thoroughly before re-use. For prolonged or repeated skin contact, use protective gloves (textile/leather or rubber/plastic).

#### Respiratory Protection

If dust is generated, wear a protective respirator: Particulates filter P2 (fine particles).

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	White Granules. Particle Size: >4mm: <1%, 2-4 mm: 90%, <2 mm: 10%
<b>Odour</b>	Odourless
<b>Odour Threshold</b>	Not applicable
<b>pH</b>	6 (5% solution)
<b>Melting Point/Freezing Point</b>	94 - 98 °C (melting); Not applicable (freezing)
<b>Initial Boiling Point/Range</b>	Not applicable
<b>Flash Point</b>	Not available
<b>Evaporation Rate</b>	Not available
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not available (lower)
<b>Vapour Pressure</b>	6 - 8 mm Hg
<b>Vapour Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	1.12
<b>Solubility</b>	Very soluble (more than 50%) in water; Not applicable (in other liquids)
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not applicable
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not applicable
<b>Viscosity</b>	Not available (kinematic)
<b>Other Information</b>	
<b>Physical State</b>	Solid
<b>Molecular Formula</b>	5Ca(NO <sub>3</sub> ) <sub>2</sub> -NH <sub>4</sub> NO <sub>3</sub> -10H <sub>2</sub> O
<b>Molecular Weight</b>	Not available
<b>Bulk Density</b>	1100 kg/m <sup>3</sup>
<b>Surface Tension</b>	Not available
<b>Critical Temperature</b>	Not available
<b>Electrical Conductivity</b>	Not available
<b>Vapour Pressure at 50 deg C</b>	Not available
<b>Saturated Vapour Concentration</b>	Not available

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## SECTION 10. STABILITY AND REACTIVITY

### Chemical Stability

Stable at temperatures below 100°C.

### Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

### Conditions to Avoid

Fire/strong heating (>100°C) may cause decomposition and formation of toxic gases (nitrogen oxides). The formation of nitrogen oxides stops when the heat source is removed.

### Hazardous Decomposition Products

Nitrogen oxides (NO<sub>x</sub>).

## SECTION 11. TOXICOLOGICAL INFORMATION

Fire may cause formation of toxic gases (nitrogen oxides). For more information, refer to safety data sheets for nitrogen oxides or nitric acid.

### Acute Toxicity

LD50 Oral Rat: 2100 mg/kg (Huntington Research Centre, England, 25.2.80)

### Skin Corrosion/Irritation

May cause mild irritation.

Dust may dry out skin and cause irritation. Irritation may be intensified by moist/sweaty skin. May cause itching, smarting, redness or sores.

### Serious Eye Damage/Irritation

May cause mild irritation.

Dust particles in the eyes may cause irritation and smarting.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

May cause mild irritation to the nose and throat.

Dust may cause irritate respiratory tract and lungs.

#### Ingestion

May cause gastro-intestinal irritation with headache, dizziness, vomiting and cramps. May be harmful if swallowed.

Nitrates can be absorbed by the body from the gastro-intestinal system by ingestion. Symptoms may be headache, dizziness, vomiting and cramps.

No information was located for: STOT (Specific Target Organ Toxicity) - Repeated Exposure, Carcinogenicity, Development of Offspring, Sexual Function and Fertility, Germ Cell Mutagenicity, Interactive Effects

## SECTION 12. ECOLOGICAL INFORMATION

### Toxicity

Larger amounts of the product could increase algae growth.

LC50 (96 hr fish): > 100 mg/L

### Persistence and Degradability

The product mineralizes and is biodegradable.

### Bioaccumulative Potential

The product does not bioaccumulate.

### Mobility in Soil

The product dissolves in water.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Not classified as hazardous waste. Small quantities may be flushed to drain with water. Large quantities may be used

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as fertilizer or disposed of in approved landfill.

## SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG Regulations.

**Special Precautions for User** Please note: This product is not considered a dangerous good. The product is a commercial grade of calcium nitrate fertilizer. It consists mainly of a double salt (calcium nitrate and ammonium nitrate). The product contains not more than 10% ammonium nitrate and at least 12% water of crystallization and is therefore, not subject to the provisions of ADR (road), RID (railway), IMDG (sea) or IATA (airplane).

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

##### WHMIS Classification

Not a WHMIS controlled product.

##### Additional Canadian Regulatory Lists

This product does not require labelling.

## SECTION 16. OTHER INFORMATION

**SDS Prepared By** Bri-Chem Supply Ltd

**Phone No.** (403) 252-5904

**Date of Preparation** February 2, 2016

**Disclaimer** This Health and Safety information is correct to the best of our knowledge and belief at the date of its publication, but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as guidance for safe handling, storage, and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.