



# CALCIUM NITRATE

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## 1. Product Identification

**Synonyms:** Nitric acid, calcium (II) salt; calcium II nitrate, tetrahydrate (1:2:4); Calcium Nitrate, 4-Hydrate; Calcium Dinitrate

**CAS No.:** 10124-37-5 (Anhydrous) 13477-34-4 (Tetrahydrate)

**Molecular Weight:** 236.15

**Chemical Formula:**  $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
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Calcium Nitrate	10124-37-5	98 - 100%
Yes		

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## 3. Hazards Identification

### Emergency Overview

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**DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY**

**TRACT. HARMFUL IF SWALLOWED OR INHALED.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

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Health Rating: 2 - Moderate

Flammability Rating: 0 - None

Reactivity Rating: 3 - Severe (Oxidizer)

Contact Rating: 3 - Severe

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;  
PROPER GLOVES

Storage Color Code: Yellow (Reactive)

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**Potential Health Effects**

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**Inhalation:**

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

**Ingestion:**

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

**Skin Contact:**

Causes irritation to skin. Symptoms include redness, itching, and pain.

**Eye Contact:**

Causes irritation, redness, and pain.

**Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

**Explosion:**

Can cause explosions in contact with combustible dusts or vapors; occasionally explosive by shock or friction. Sensitive to mechanical impact.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed to sewer with plenty of water.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

None established.

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

White crystals.

**Odor:**

Odorless.

**Solubility:**

121g in 100g of water.

**Density:**

2.36

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

No information found.

**Melting Point:**

45C (113F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

### Stability:

Unstable. Exposure to heat may result in build-up of dangerous pressures. A strong oxidizer, reacts violently upon contact with many organic substances, particularly textile and paper.

### Hazardous Decomposition Products:

Oxides of nitrogen.

### Hazardous Polymerization:

Will not occur.

### Incompatibilities:

Combustible materials, organic materials, powdered metals, ammonia, hydrazine, reducing agents.

### Conditions to Avoid:

Heat, flame, ignition sources, shock and incompatibles.

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## 11. Toxicological Information

Oral rat LD50: 3900 mg/kg. Irritation eye rabbit 500mg/24H severe.

-----\Cancer Lists\-----			
Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
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Calcium Nitrate (10124-37-5) None	No	No	

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## 12. Ecological Information

### Environmental Fate:

No information found.

### Environmental Toxicity:

The LC50/96-hour values for fish are over 100 mg/l.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may

differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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## 14. Transport Information

### Domestic (Land, D.O.T.)

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**Proper Shipping Name:** CALCIUM NITRATE

**Hazard Class:** 5.1

**UN/NA:** UN1454

**Packing Group:** III

**Information reported for product/size:** 100KG

### International (Water, I.M.O.)

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**Proper Shipping Name:** CALCIUM NITRATE

**Hazard Class:** 5.1

**UN/NA:** UN1454

**Packing Group:** III

**Information reported for product/size:** 100KG

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## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----  
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Ingredient TSCA EC Japan  
Australia  
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Calcium Nitrate (10124-37-5) Yes Yes Yes  
Yes

-----\Chemical Inventory Status - Part 2\-----  
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Ingredient Korea --Canada--  
Phil. DSL NDSL  
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Calcium Nitrate (10124-37-5) Yes Yes No  
Yes

-----\Federal, State & International Regulations - Part 1\-----  
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313----- -SARA 302- -----SARA

Ingredient Chemical Catg.	RQ	TPQ	List	
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Calcium Nitrate (10124-37-5)	No	No	No	Nitra

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