

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Calcium nitrate tetrahydrate  
Product Number : 237124  
Brand : Sigma-Aldrich  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # : (314) 776-6555

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $\text{CaN}_2\text{O}_6 \cdot 4\text{H}_2\text{O}$   
Molecular Weight : 236.15 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Calcium nitrate tetrahydrate</b>			
13477-34-4	233-332-1	-	-

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Oxidizer

##### Target Organs

Blood, Central nervous system

#### HMIS Classification

Health Hazard: 1  
Flammability: 0  
Physical hazards: 1

#### NFPA Rating

Health Hazard: 0  
Fire: 0  
Reactivity Hazard: 1  
Special hazard.: OX

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes**  
**Ingestion**

May cause eye irritation.  
May be harmful if swallowed.

#### 4. FIRST AID MEASURES

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 5. FIRE-FIGHTING MEASURES

**Flammable properties**

Flash point no data available

Ignition temperature no data available

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

Use water spray to cool unopened containers.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Avoid dust formation. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**

Do not let product enter drains.

**Methods for cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

#### 7. HANDLING AND STORAGE

**Handling**

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from combustible material.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. For prolonged or repeated contact use protective gloves.

#### Eye protection

Safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	crystalline
Colour	colourless

### Safety data

pH	5.5 - 7.0
Melting point	44 °C (111 °F)
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	1.86 g/mL at 25 °C (77 °F)
Water solubility	236 g/l at 20 °C (68 °F) - soluble

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Conditions to avoid

Avoid contact with combustible material (paper, wool, oil).

### Materials to avoid

Strong reducing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO<sub>x</sub>), Calcium oxide

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 3,900 mg/kg

**Irritation and corrosion**

Skin - rabbit - Mild skin irritation - 24 h

Eyes - rabbit - Mild eye irritation - 24 h

**Sensitisation**

no data available

**Chronic exposure**

IARC: Group 2A - Probably carcinogenic to humans (Calcium nitrate tetrahydrate)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Target Organs</b>	Blood, Central nervous system,

**Additional Information**

RTECS: EW3000000

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

no data available

**Further information on ecology**

no data available

**13. DISPOSAL CONSIDERATIONS****Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### DOT (US)

UN-Number: 1454 Class: 5.1 Packing group: III  
Proper shipping name: Calcium nitrate  
Marine pollutant: No  
Poison Inhalation Hazard: No

### IMDG

UN-Number: 1454 Class: 5.1 Packing group: III EMS-No: F-A, S-Q  
Proper shipping name: CALCIUM NITRATE  
Marine pollutant: No

### IATA

UN-Number: 1454 Class: 5.1 Packing group: III  
Proper shipping name: Calcium nitrate

## 15. REGULATORY INFORMATION

### OSHA Hazards

Oxidizer

### DSL Status

All components of this product are on the Canadian DSL list.

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

	CAS-No.	Revision Date
Calcium nitrate tetrahydrate	13477-34-4	1989-12-01

### SARA 311/312 Hazards

Reactivity Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Calcium nitrate tetrahydrate	13477-34-4	1989-12-01

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Calcium nitrate tetrahydrate	13477-34-4	1989-12-01

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

## 16. OTHER INFORMATION

### Further information

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