

Material Safety Data Sheet

Version 3.0
Revision Date 12/29/2008
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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
Calcium nitrate tetrahydrate			
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_x), 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

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.
Target Organs	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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