

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Calcium Nitrate Tetrahydrate

**Product Code:** CA-NAT-05-C.4HYD

**CAS Number:** 13477-34-4

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Serious eye damage (Category 1), H318

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H302 Harmful if swallowed.

H318 Causes serious eye damage.

Precautionary statement(s)

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear eye protection/ face protection.

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.  
P501 Dispose of contents/ container to an approved waste disposal plant.  
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.1 Substances

Formula :  $\text{CaN}_2\text{O}_6 \cdot 4\text{H}_2\text{O}$

Molecular weight : 236.15 g/mol

CAS-No. : 13477-34-4

EC-No. : 233-332-1

Hazardous components

Component Classification Concentration

Calcium nitrate tetrahydrate

Acute Tox. 4; Eye Dam. 1;

H302, H318

<= 100 %

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## **SECTION 4. FIRST AID MEASURES**

### 4.1 Description of 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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

### 5.1 Extinguishing media

Suitable extinguishing media

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

### 5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO<sub>x</sub>), Calcium oxide

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

No data available

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate

ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains

### 6.3 Methods and materials for containment and cleaning up

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

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result

in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration

before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

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

Hygroscopic.

Storage class (TRGS 510): Oxidizing hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate

government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after

use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method:

EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an

industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It

should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to

the concentration and amount of the dangerous substance at the specific workplace.

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).

Control of environmental exposure

Do not let product enter drains.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: crystalline

Colour: colourless

b) Odor No data available

c) Odor Threshold No data available

d) pH 5.5 - 7.0

e) Melting point/freezing point

Melting point/range: 44 °C (111 °F) - dec.

f) Initial boiling point and boiling range  
No data available

g) Flash point No data available

h) Evaporation rate No data available

i) Flammability (solid, gas) No data available

j) Upper/lower flammability or explosive limits  
No data available

k) Vapor pressure No data available

l) Vapor density No data available

m) Relative density 1.82 g/cm<sup>3</sup>

n) Water solubility 1,293 g/l at 20 °C (68 °F)

o) Partition coefficient: noctanol/water  
No data available

p) Auto-ignition temperature  
No data available

q) Decomposition temperature  
No data available

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties The substance or mixture is not classified as oxidizing.

9.2 Other safety information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

10.1 Reactivity  
No data available

10.2 Chemical stability  
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions  
No data available

10.4 Conditions to avoid  
Avoid contact with combustible material (paper, wool, oil).

10.5 Incompatible materials  
Strong reducing agents

10.6 Hazardous decomposition products  
Other decomposition products - No data available

In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

11.1 Information on toxicological effects  
Acute toxicity  
LD<sub>50</sub> Oral - Rat - > 300 - < 2,000 mg/kg  
(OECD Test Guideline 423)

Inhalation: No data available  
Dermal: No data available  
No data available  
Skin corrosion/irritation  
Skin - Rabbit  
Result: No skin irritation  
(OECD Test Guideline 404)  
Serious eye damage/eye irritation  
Eyes - Rabbit  
Result: Risk of serious damage to eyes.  
(OECD Test Guideline 405)  
Respiratory or skin sensitisation  
No data available  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
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.  
Reproductive toxicity  
No data available  
No data available  
Specific target organ toxicity - single exposure  
No data available  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available  
Additional Information  
RTECS: EW3000000

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## **SECTION 12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - > 98.9 mg/l - 96 h

### **12.2 Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste

disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a

chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

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## **SECTION 14. TRANSPORT INFORMATION**

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## **SECTION 15. REGULATORY INFORMATION**

### SARA 302 Components

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

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De

Minimis) reporting levels established by SARA Title III, Section 313.

### Massachusetts Right To Know Components

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

### Pennsylvania Right To Know Components

Calcium nitrate tetrahydrate

CAS-No.

13477-34-4

Revision Date

2007-03-01

### New Jersey Right To Know Components

CAS-No. Revision Date

Calcium nitrate tetrahydrate 13477-34-4 2007-03-01

### California Prop. 65 Components

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

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the

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