

1 Identification

Product Name: Calcium Nitrate, 4H₂O

Catalog Number: C017

Company: Caisson Laboratories

Address: 836 South 100 East, Smithfield, UT 84335

Telephone: 435.755.7615

Fax: 435.755.7617

Emergency Contact: CHEMTREC 800.424.9300 (703.527.3887)

Recommended Use: For Laboratory Use Only

Restrictions On Use: This product is intended for research and laboratory use only. This product is not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2 Hazard(s) Identification

Classification of the Substance or Mixture

GHS Classification: H272 - Oxidizing Solids (Category 3)

H302 - Acute Toxicity, Oral (Category 4)

H318 - Serious Eye Damage (Category 1)

GHS Label elements, including precautionary statements

Signal Word: Warning

Hazard Statements

H272 - May intensify fire; oxidizer.

H302 - Harmful if swallowed.

H318 - Causes serious eye damage.

Precautionary Statements

P221 - Take any precaution to avoid mixing with combustibles.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501 - Dispose of contents/container to an approved waste disposal plant.

Pictograms:



3 Composition / Information on Ingredients

Synonyms: Nitric Acid Calcium Salt Tetrahydrate

Formula: Ca(NO₃)₂ · 4H₂O

Molecular Weight (g/mol): 236.15

CAS Number: 13477-34-4

EC Number: 233-332-1

Component	Concentration (%)	Classification
Calcium Nitrate, Tetrahydrate	99 - 103	Ox. Sol. 3; Acute Tox. (Oral) 4; Eye Dam. 1; H272, H302, H318

4 First-Aid Measures

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

Route of Exposure

If swallowed: If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.

In case of skin contact: Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

In case of eye contact: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

If inhaled: Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

Recommendation for immediate medical care and special treatment needed: No data available

5 Fire-Fighting Measures

Suitable extinguishing media: Use water spray, dry chemical powder, alcohol-resistant foam, or carbon dioxide. Use extinguishing media suitable for surrounding fire.

Special protective equipment and precautions for fire-fighters: Wear self-contained breathing apparatus and protective clothing.

Special hazards arising from the substance or mixture: Nitrogen oxides (NO_x), Calcium oxide

Additional Information: No data available

6 Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and material for containment and cleanup: Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains.

7 Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Keep away from combustible materials. Keep away from heat and sources of ignition. No smoking. Wash thoroughly after use.

Conditions for safe storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Protect from moisture. Product is hygroscopic.

Recommended storage temperature: Room Temperature

Incompatibilities: Strong reducing agents

8 Exposure Controls / Personal Protection

OSHA Permissible Exposure Limits (PELs): No data available

ACGIH Threshold Limit Values (TLVs): No data available

Engineering controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE)

Eye/face protection: Wear chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin protection: Wear protective gloves.

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).

Body protection: Wear lab coat, gown, or coveralls to protect from exposure.

9 Physical and Chemical Properties

Appearance: White Crystalline Flakes

pH: 5.0 - 7.0 (5%, H₂O)

Solubility: Soluble in Water

Specific Gravity: No data available

Melting Range: 44 °C (111 °F)

Odor: Odorless

Odor Threshold: No data available

Viscosity: No data available

Relative Density: 1.82 g/cm³

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range: No data available

Flash Point: No data available

Flammability (Solid, gas): No data available

Flammability Upper/Lower Limits: No data available

Partition Coefficient: n-octanol/water: No data available

Vapor Density: No data available

Vapor Pressure: No data available

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

10 Stability and Reactivity

Reactivity: No data available

Chemical stability: Stable under normal conditions of use.

Possibilities of hazardous reactions: No data available

Conditions to avoid: Heat, flames, dust generation, avoid contact with combustible materials (paper, wool, oil)

Incompatible materials: Strong reducing agents

Hazardous decomposition products: Nitrogen oxides (NOx), Calcium oxide

11 Toxicological Information

Toxicity: LD₅₀ Oral - Rat: 3,900 mg/kg

Carcinogenicity

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.

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

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

Reproductive toxicity: No data available

Symptoms associated with overexposure: Irritation, cough, dizziness, headache, vomiting, convulsions, cyanosis, cramps

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Target Organs: Blood, Central Nervous System

Medical conditions aggravated by exposure: No data available

Routes of entry: Inhalation, Absorption through skin, eyes, mouth

NIOSH/RTECS: EW3000000

12 Ecological Information

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

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Results of PBT and vPvB: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects: No data available

13 Disposal Considerations

Disposal of Product: Dispose in accordance with all applicable federal, state, and local environmental regulations.

Disposal of Packaging: Dispose of as unused product.

14 Transport Information

DOT (US)

Proper Shipping Name: CALCIUM NITRATE

UN/NA number: UN1454 Class: 5.1 Packaging group: III Hazard Label: Oxidizer

Reportable Quantity (RQ): N/A

Poison Inhalation Hazard: N/A

IMDG

Proper Shipping Name: CALCIUM NITRATE

UN number: UN1454 Class: 5.1 Packaging group: III Hazard Label: Oxidizer

IATA

Proper Shipping Name: CALCIUM NITRATE

UN Number: UN1454 Class: 5.1 Packaging group: III Hazard Label: Oxidizer

15 Regulatory Information

TSCA: Not Listed

SARA Title III

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: Calcium Nitrate, Tetrahydrate CAS No. 13477-34-4

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

16 Other Information

HMIS Rating

Health hazard: 2

Chronic health hazard: *

Flammability: 0

Physical hazard: 1

NFPA Rating

Health hazard: 2

Fire hazard: 0

Reactivity: 1



Safety Data Sheet

Special Hazard: OX

Further information: All chemicals may pose unknown hazards and should be used with caution. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Caisson Laboratories, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

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