



SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Calcium Nitrate Tetrahydrate
CAS number	13477-34-4
Synonyms	Calcium dini, Nitric acid, calcium salt, tetrahydrate, Norwegian saltpeter tetrahydrate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory Chemicals
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Oxidizing solids	Category 3
Acute oral toxicity	Category 4
Serious Eye Damage/eye irritation	Category 1

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

May intensify fire; oxidizer. Harmful if swallowed. Causes serious eye damage.

Precautionary statements

Prevention: Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/spark/open flames/hot surfaces. No smoking. Keep/Store away from clothing/other combustible materials. Take any precaution to avoid mixing with combustibles.

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.

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

In cause of fire: Use CO₂, dry chemical, or foam for extinction.

Disposal: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Calcium nitrate tetrahydrate	Nitric acid, calcium salt, tetrahydrate	13477-34-4	>95%
Calcium nitrate	-	10124-37-5	-

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled

Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.

In case of skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
If swallowed	Do not induct vomiting. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes eye burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Water
Unsuitable extinguishing media	No information available

5.2 Specific hazards arising from the substance or mixture

Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood, paper, oil, clothing, etc). Hazardous combustion products: Nitrogen oxides

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 Further information

Flash Point No information available

Autoignition Temperature No information available

Explosion limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

Health	Flammability	Instability	Physical hazards
2	0	1	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation.

6.2 Environmental precautions

See Section 12 for additional ecological information.

6.3 Methods and materials for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep combustible (wood, paper, oil, etc) away from spilled material. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoiding contact with skin and eyes. Do not breathe dust. Minimize dust generation and accumulation. Wash hands before breaks and immediately after handling the product. Keep away from clothing and other combustible materials.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Do not store near combustible materials. Keep containers tightly closed in a dry, cool and well ventilated place.

Incompatibilities

No information available

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

This product does not contain any hazardous materials with occupational limits established by the region specific regulatory bodies.

US. ACGIH Threshold Limit Values

This product does not contain any hazardous materials with occupational limits established by the region specific regulatory bodies.

US. NIOSH: Pocket Guide to Chemical Hazards

This product does not contain any hazardous materials with occupational limits established by the region specific regulatory bodies.

Biological occupational exposure limits

No information available

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are closed to the workstation location.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

No protective equipment is needed under normal use conditions.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	5-7 5% aq.sol
Melting Point/Range	45 °C / 113 °F

Boiling Point/Range	132 °C / 269.6 °F
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Density	1.86
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	No information available
Molecular Formula	CaN ₂ O ₆ ·4H ₂ O
Molecular Weight	236.15
VOC Content(%)	No information available
Oxidizing properties	Oxidizer

9.2 Other safety information No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Yes, this product is reactive.

10.2 Chemical stability

Hygroscopic, oxidizer: contact with combustible/organic material may cause fire.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Incompatible products. Exposure to moist air or water. Combustible material. Excess heat.

10.5 Incompatible materials

Strong acids, strong reducing agents, combustible material.

10.6 Hazardous decomposition products

Nitrogen oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium nitrate	302 mg/kg (rat)	-	-
Calcium nitrate tetrahydrate	300-2000 mg/kg (rat)	-	-

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Irritating to eyes.

Respiratory or skin sensitization

Irritating to respiratory system.

Germ cell mutagenicity

Not mutagenic in AMES Test.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Calcium nitrate tetrahydrate	13477-34-4	Not listed	Not listed	Not listed	Not listed	Not listed
Calcium nitrate	10124-37-5	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

None known

Specific target organ toxicity - repeated exposure

None known

Reproductive toxicity

No information available

Chronic effects

No information available

11.2 Additional Information

No information available

SECTION 12: Ecological information

12.1 Toxicity

Do not empty into drains

Product		Species	Test Results
Calcium nitrate	LC50	Freshwater Fish	10000 mg/L 96 h
	LC50	Water Flea	2355 mg/L 120 h

12.2 Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN Number UN1454
Proper Shipping name CALCIUM NITRATE
Hazard Class 5.1
Packaging Group III

IMDG

UN Number UN1454
Proper Shipping name CALCIUM NITRATE

Hazard Class 5.1
Packaging Group III

IATA

UN Number UN1454
Proper Shipping name CALCIUM NITRATE
Hazard Class 5.1
Packaging Group III

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Listed: Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Reactive Hazard

SARA 313 (TRI reporting)

Listed

Component	CAS-No	Weight %	Sara 3113 - Threshold Values %
Calcium nitrate tetrahydrate	13477-34-4	>95%	1.0
Calcium nitrate	10124-37-5	-	1.0

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not listed.

Safe Drinking Water Act

Not listed.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Listed: Calcium Nitrate Tetrahydrate

Listed: Calcium Nitrate

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

California Proposition 65

Not listed.

SECTION 16: Other information

Date of Issue: 7/22/2024

Revision Date: 7/6/2026

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.