

MATERIAL SAFETY DATA SHEET**Product Name:** Calcium nitrate tetrahydrate**CAS No.:** 13477-34-4**Version:** 0**1. Identification**

Product Code : 90357
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
CACIUM NITRATE TETRAHYDRATE	13477-34-4	98-100%

3. Hazards Identification

Emergency Overview : DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.
CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

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Health Rating : 2 - Moderate
Flammability Rating : 0 - None
Reactivity Rating : 3 - Severe (Oxidizer)
Contact Rating : 3 - Severe

Potential Health Effects

Inhalation : Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.
Ingestion : Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.
Skin Contact : Causes irritation to skin. Symptoms include redness, itching, and pain.
Eye Contact : Causes irritation, redness, and pain.
Chronic Exposure : No information found.
Aggravation of Pre-existing Conditions : No information found.

MATERIAL SAFETY DATA SHEET**Product Name:** Calcium nitrate tetrahydrate**CAS No.:** 13477-34-4**Version:** 0**4. First Aid Measures**

- General information** : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.
- Inhalation** : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion** : Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
- Skin Contact** : Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention

5. Fire fighting measures

- Fire** : Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
- Explosion** : Can cause explosions in contact with combustible dusts or vapors; occasionally explosive by shock or friction. Sensitive to mechanical impact.
- Fire Extinguishing Media** : Use any means suitable for extinguishing surrounding fire.
- Special Information** : In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool.

6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures** : Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Methods and material for containment and cleaning up** : Sweep up and place in a clearly labeled container for chemical waste.
Clean surface thoroughly to remove residual contamination.
- Notification Procedures** : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
- Environmental precautions** : Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

MATERIAL SAFETY DATA SHEET**Product Name:** Calcium nitrate tetrahydrate**CAS No.:** 13477-34-4**Version:** 0**7. Handling and Storage**

- Precautions for safe handling** : Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Wash thoroughly after handling.
- Conditions for safe storage, including any incompatibilities** : Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

8. Exposure Controls Personal Protection

- Control parameters**
- Occupational exposure limits** : None established
- Ventilation System** : A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
- Personal Respirators (NIOSH Approved):** : For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.
WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
- Skin Protection** : Wear protective gloves and clean body-covering clothing.
- Eye Protection** : Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.
- Other** : Wear suitable protective clothing.
- Respiratory protection** : In case of inadequate ventilation use suitable respirator.
- Hygiene measures** : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

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Appearance	:	White crystals.
Odor	:	Odorless.
pH	:	No information found
Melting point/freezing point	:	45C (113F)
Initial boiling point and boiling range	:	Not applicable.
Flash Point	:	No information found.
Vapor pressure	:	No information found.
Vapor density	:	No information found.
Relative density	:	2.36
Solubility in water	:	121g in 100g of water.
Solubility (other)	:	No data available.
Formula	:	Ca(NO ₃) ₂ · 4H ₂ O
Molecular Weight	:	236.15 g/mol

10. Stability and Reactivity

Stability	:	Unstable. Exposure to heat may result in build-up of dangerous pressures. A strong oxidizer reacts violently upon contact with many organic substances, particularly textile and paper.
Hazardous Decomposition Products	:	Oxides of nitrogen.
Hazardous Polymerization	:	Will not occur.
Incompatibilities:	:	Combustible materials, organic materials, powdered metals, ammonia, hydrazine, reducing agents.
Conditions to Avoid:	:	Heat, flame, ignition sources, shock and incompatibles.

11. Toxicological Information**Information on likely routes of exposure**

Ingestion	:	May cause irritation of the gastrointestinal tract.
Inhalation	:	May cause irritation to the respiratory system.
Skin contact	:	May cause irritation.
Eye contact	:	May cause temporary eye irritation.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral Product	:	3900 mg/kg. Irritation eye rabbit 500mg/24H severe.
Dermal Product	:	No data available.
Inhalation Product	:	No data available.

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Repeated dose toxicity Product	:	No data available.
Skin corrosion/irritation Product	:	May cause skin irritation.
Serious eye damage/eye irritation Product	:	May irritate eyes.
Respiratory or skin sensitization Product	:	Not a skin sensitizer.
Carcinogenicity Product	:	This substance has no evidence of carcinogenic properties.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE	:	No carcinogenic components identified.
US. National Toxicology Program (NTP) Report on Carcinogens DIOXANE	:	No carcinogenic components identified.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	:	No carcinogenic components identified.
Germ cell mutagenicity In vitro Product	:	No mutagenic components identified.
In vivo Product	:	No mutagenic components identified.
Reproductive toxicity Product	:	No components toxic to reproduction.
Specific target organ toxicity - single exposure Product	:	No data available.
Specific target organ toxicity - repeated exposure Product	:	No data available.
Aspiration hazard Product	:	Not classified.
Other effects	:	None known.

12. Ecological Information**Ecotoxicity****Acute hazards to the aquatic environment :**

Fish Product	:	No data available.
Aquatic invertebrates Product	:	The LC50/96-hour values for fish are over 100 mg/l.

Chronic hazards to the aquatic environment :

Fish Product	:	No data available.
Aquatic invertebrates Product	:	No data available.
Toxicity to Aquatic Plants Product:	:	No data available.
Persistence and degradability	:	
Biodegradation Product	:	There are no data on the degradability of this product.
BOD/COD ratio Product	:	No data available.
Bioaccumulative potential	:	
Bioconcentration factor (BCF) Product	:	No data available on bioaccumulation.
Partition coefficient n-octanol / water (log Kow) Product	:	No data available.
Mobility in soil	:	No data available.

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- Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN1454	CALCIUM NITRATE	5.1	III	No
IMDG	UN1454	CALCIUM NITRATE	5.1	III	No
IATA	UN1454	CALCIUM NITRATE	5.1	III	No

15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

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