

SAFETY DATA SHEET

Creation Date 11-Oct-2011

Revision Date 28-Dec-2021

Revision Number 10

1. Identification

Product Name Calcium nitrate tetrahydrate

Cat No. : AC447530000; AC447530010; AC447530050; AC447530250

CAS No 13477-34-4

Synonyms Calcium dini; Nitric acid, calcium salt, tetrahydrate; Norwegian saltpeter tetrahydrate

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|-----------------------------------|------------|
| Acute oral toxicity | Category 4 |
| Serious Eye Damage/Eye Irritation | Category 1 |

Label Elements

Signal Word

Danger

Hazard Statements

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

Eyes

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

Ingestion

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

Rinse mouth

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS No | Weight % |
|------------------------------|------------|----------|
| Calcium nitrate tetrahydrate | 13477-34-4 | >95 |

4. First-aid measures

| | |
|--|---|
| General Advice | If symptoms persist, call a physician. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |
| Most important symptoms and effects | Causes severe eye damage. |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---------------------------------------|---|
| Suitable Extinguishing Media | Water spray. Dry chemical. Carbon dioxide (CO ₂). |
| Unsuitable Extinguishing Media | Do not use halogenated extinguishing agents or foam |
| Flash Point | No information available |

| | |
|---|--------------------------|
| Method - | 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 |

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Nitrogen oxides (NOx). Calcium oxides.

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.

NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 2 | 0 | 1 | N/A |

6. Accidental release measures

Personal Precautions Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. Keep away from clothing and other combustible materials.

Storage. Do not store near combustible materials. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong reducing agents. Combustible material. Strong bases.

8. Exposure controls / personal protection

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

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close 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 and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection No protective equipment is needed under normal use conditions.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|---|---|
| Physical State | Solid Crystalline |
| 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 |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | 1.820 |
| Bulk Density | 1.100 kg/m ³ |
| Solubility | Soluble |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | Not applicable |
| Molecular Formula | Ca N ₂ O ₆ . 4 H ₂ O |
| Molecular Weight | 236.15 |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | None known, based on information available |
| Stability | Hygroscopic. |
| Conditions to Avoid | Incompatible products. Exposure to moist air or water. Combustible material. Excess heat. |
| Incompatible Materials | Strong reducing agents, Combustible material, Strong bases |
| Hazardous Decomposition Products | Nitrogen oxides (NO _x), Calcium oxides |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information**Acute Toxicity****Product Information****Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------------------|----------------------|-------------|-----------------|
| Calcium nitrate tetrahydrate | 300-2000 mg/kg (Rat) | Not listed | Not listed |

Toxicologically Synergistic No information available**Products****Delayed and immediate effects as well as chronic effects from short and long-term exposure**

| | |
|----------------------|--------------------------|
| Irritation | Causes eye burns |
| Sensitization | No information available |

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|------------------------------|------------|------------|------------|------------|------------|------------|
| Calcium nitrate tetrahydrate | 13477-34-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects Not mutagenic in AMES Test

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|------------------------------|------------------|---|------------|---------------------------------------|
| Calcium nitrate tetrahydrate | Not listed | LD50 > 100mg/L, 96h Oncorhynchus mykiss OECD Test Guideline 203 | Not listed | EC50 = 490 mg/L, 48h Daphnia magna |

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

Bioaccumulation/ Accumulation No information available.

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

13. Disposal considerations

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.

14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. Regulatory information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|------------------------------|------------|------|---|-----------------------------|
| Calcium nitrate tetrahydrate | 13477-34-4 | - | - | - |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|------------------------------|------------|-----|------|--------|-------|------|------|------|-------|------|
| Calcium nitrate tetrahydrate | 13477-34-4 | - | - | - | X | X | X | X | X | - |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

| Component | CAS No | Weight % | SARA 313 - Threshold Values % |
|------------------------------|------------|----------|-------------------------------|
| Calcium nitrate tetrahydrate | 13477-34-4 | >95 | 1.0 |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|------------------------------|---------------|------------|--------------|----------|--------------|
| Calcium nitrate tetrahydrate | - | X | - | X | - |

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|------------------------------|------------|----------|------------------------------|---------------------------|--|
| Calcium nitrate tetrahydrate | 13477-34-4 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|------------------------------|------------|---|--|----------------------------|------------------------------------|
| Calcium nitrate tetrahydrate | 13477-34-4 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other information

| | |
|-------------------------|---|
| Prepared By | Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com |
| Creation Date | 11-Oct-2011 |
| Revision Date | 28-Dec-2021 |
| Print Date | 28-Dec-2021 |
| Revision Summary | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). |

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

End of SDS