

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) No. 2020/878



**Trade name :** 102790 - Calcium nitrate tetrahydrate, ACS

**Revision date :** 04/11/2022

**Version (Revision) :**

2.0.0 (1.0.0)

**Print date :** 12/11/2022

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

### 1.1 Product identifier

Calcium nitrate tetrahydrate, ACS (102790)

Calcium nitrate tetrahydrate ; CAS No. : 13477-34-4 ; EC No. : 233-332-1 ; REACH No. : N/D

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

#### Relevant identified uses

For manufacturing, processing, laboratory or repacking use only.

#### Uses advised against

Uses other than those recommended.

### 1.3 Details of the supplier of the safety data sheet

#### Supplier (manufacturer/importer/only representative/downstream user/distributor)

DC Fine Chemicals Ltd

**Street :** 88 Hill Top

**Postal code/City :** NW11 6DY London United Kingdom

**Telephone :** +44 (0)20 7586 6800

**Telefax :** +44 (0)20 7504 1701

**Information contact :** info@dcfinechemicals.com

### 1.4 Emergency telephone number

(Only available during office hours; Monday-Friday; 08:00-18:00)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [CLP]

Ox. Sol. 2 ; H272 - Oxidising solids : Category 2 ; May intensify fire; oxidiser.

Eye Irrit. 2 ; H319 - Serious eye damage/eye irritation : Category 2 ; Causes serious eye irritation.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

##### Hazard pictograms



Flame over circle (GHS03) · Exclamation mark (GHS07)

##### Signal word

DANGER

##### Hazard statements

H272

May intensify fire; oxidiser.

H319

Causes serious eye irritation.

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## Precautionary statements

- |                |  |
|----------------|--|
| P210           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                                   |
| P220           | Keep away from clothing and other combustible materials.   |
| P264           | Wash thoroughly after handling.  |
| P337+P313      | If eye irritation persists: Get medical advice/attention.  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P370+P378      | In case of fire: Use ... to extinguish.  |

## 2.3 Other hazards

None

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

**Substance name :** Calcium nitrate tetrahydrate

**EC No. :** 233-332-1

**REACH No. :** N/D

**CAS No. :** 13477-34-4

**Purity :** 100 % [mass]

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician. After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. If accidentally ingested, seek immediate medical attention, NEVER induce vomiting. Remove victim out of the danger area. In case of inhalation take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration.

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

Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps.

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

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Extinguisher powder or CO<sub>2</sub>. In case of more serious fires, also alcohol-resistant foam and water spray.

#### Unsuitable extinguishing media

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

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

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In case of fire may be liberated: Pyrolysis products, toxic

### 5.3 Advice for firefighters

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

#### Special protective equipment for firefighters

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots.

## SECTION 6: Accidental release measures

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

Clear spills immediately.

#### For non-emergency personnel

Wear a self-contained breathing apparatus and chemical protective clothing. Remove persons to safety.

#### For emergency responders

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Retain contaminated washing water and dispose it.

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

#### For containment

Collect in closed and suitable containers for disposal.

#### For cleaning up

The contaminated area should be cleaned up immediately with: Water Soak up inert absorbent and dispose as waste requiring special attention. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Avoid dust formation.

### 6.4 Reference to other sections

Reference to other sections Disposal: see section 13 Personal protection equipment: see section 8

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Protective measures



Wear personal protection equipment (refer to section 8).

#### Measures to prevent aerosol and dust generation

Use only in well-ventilated areas. Do not breathe gas/fumes/vapour/spray. Do not breathe dust.

#### Environmental precautions

Use appropriate container to avoid environmental contamination.

#### Specific requirements or handling rules

Handle with care - avoid bumps, friction and impact. Only use the material in places where open light, fire and other

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flammable sources can be kept away.

## Advices on general occupational hygiene

Handle and open container with care.

## 7.2 Conditions for safe storage, including any incompatibilities

### Technical measures and storage conditions

#### Storage temperature :

Keep in a cool, well-ventilated place. Protect against UV-radiation/sunlight Humidity.

### Requirements for storage rooms and vessels

Only use containers specifically approved for the substance/product.

### Hints on joint storage

Store at least 3 metres apart from: Chemicals/products that react together readily Keep away from sources of ignition  
- No smoking.

**Storage class (TRGS 510) :** 5.1B

## 7.3 Specific end use(s)

None

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

None

### 8.2 Exposure controls

Only wear fitting, comfortable and clean protective clothing.

### Personal protection equipment

#### Eye/face protection



Eye glasses with side protection Face protection shield EN 166

#### Skin protection

##### Hand protection



Tested protective gloves must be worn EN ISO 374 The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

##### Body protection



Full protection suit Wash contaminated clothing prior to re-use.

#### Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

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The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used. Particle filter device (EN 143).

## Thermal hazards

No information available.

## Environmental exposure controls

No information available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance :** solid

#### Safety characteristics

<b>Melting point/freezing point :</b>	( 1013 hPa )	45 °C
<b>Initial boiling point and boiling range :</b>	( 1013 hPa )	No data available
<b>Decomposition temperature :</b>	( 1013 hPa )	561 °C
<b>Flash point :</b>		No data available
<b>Auto-ignition temperature :</b>		No data available
<b>Lower explosion limit :</b>		No data available
<b>Upper explosion limit :</b>		No data available
<b>Vapour pressure :</b>	( 50 °C )	No data available
<b>Density :</b>	( 20 °C )	1.82 g/cm <sup>3</sup>
<b>Solvent separation test :</b>	( 20 °C )	not applicable
<b>Water solubility :</b>	( 20 °C )	1470 g/l
<b>Fat solubility :</b>	( 20 °C )	No data available.
<b>pH :</b>	( 20 °C / 50 g/l )	5 - 7
<b>log P O/W :</b>		No data available
<b>Flow time :</b>	( 20 °C )	No data available
<b>Viscosity :</b>	( 20 °C )	No data available
<b>Relative vapour density :</b>	( 20 °C )	No data available
<b>Evaporation rate :</b>		No data available
<b>Flammable solids :</b>	No data available.	
<b>Flammable gases :</b>	No data available.	
<b>Explosive properties :</b>	No data available.	

DIN-  
cup 4  
mm

### 9.2 Other information

None

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Explosive if mixed with organic substances.

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## 10.2 Chemical stability

Safe handling: see section 7

## 10.3 Possibility of hazardous reactions

May intensify fire; oxidiser. Violent reaction with: Reducing agent, strong.

## 10.4 Conditions to avoid

Avoid the contact with incompatible materials. Take precautionary measures against static discharges. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

## 10.5 Incompatible materials

Avoid the following materials: Reducing materials, Flammable materials, Explosives materials, Toxic materials, Corrosive materials.

## 10.6 Hazardous decomposition products

Depending on conditions of use, can be generated the following products: Oxygen, Corrosive vapors or gases, Oxidizing gases or vapors.

# SECTION 11: Toxicological information

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

### Acute toxicity

#### Acute oral toxicity

Parameter :	LD50 ( Calcium nitrate tetrahydrate ; CAS No. : 13477-34-4 )
Exposure route :	Oral
Species :	Rat
Effective dose :	3900 mg/kg

### Corrosion

#### Skin corrosion/irritation

No information available.

#### Serious eye damage/eye irritation

No information available.

### Respiratory or skin sensitisation

No information available.

## CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

### Carcinogenicity

No information available.

### Germ cell mutagenicity

No information available.

### Reproductive toxicity

No information available.

### STOT-single exposure

No information available.

### STOT-repeated exposure

No information available.

### Aspiration hazard

No information available.

## 11.2 Information on other hazards

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No information available.

## SECTION 12: Ecological information

### 12.1 Toxicity

No information available.

### 12.2 Persistence and degradability

No information available.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

### 12.6 Endocrine disrupting properties

No information available.

### 12.7 Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation. Follow the provisions of Directive 2008/98/EC regarding waste management.

#### Product/Packaging disposal

##### Waste treatment options

Recycle according to official regulations. Evidence for disposal must be provided.

##### Appropriate disposal / Product

Dispose of waste according to applicable legislation.

##### Appropriate disposal / Package

Non-contaminated packages must be recycled or disposed of. Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the substance itself.

## SECTION 14: Transport information

### 14.1 UN number

UN 1454

### 14.2 UN proper shipping name

#### Land transport (ADR/RID)

CALCIUM NITRATE

#### Sea transport (IMDG)

CALCIUM NITRATE

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## Air transport (ICAO-TI / IATA-DGR)

CALCIUM NITRATE

### 14.3 Transport hazard class(es)

#### Land transport (ADR/RID)

**Class(es) :** 5.1  
**Classification code :** O2  
**Hazard identification number (Kemler No.) :** 50  
**Tunnel restriction code :** E  
**Special provisions :** LQ 5 kg · E 1  
**Hazard label(s) :** 5.1

#### Sea transport (IMDG)

**Class(es) :** 5.1  
**EmS-No. :** F-A / S-Q  
**Special provisions :** LQ 5 kg · E 1  
**Hazard label(s) :** 5.1

#### Air transport (ICAO-TI / IATA-DGR)

**Class(es) :** 5.1  
**Special provisions :** E 1  
**Hazard label(s) :** 5.1

### 14.4 Packing group

III

### 14.5 Environmental hazards

**Land transport (ADR/RID) :** No

**Sea transport (IMDG) :** No

**Air transport (ICAO-TI / IATA-DGR) :** No

### 14.6 Special precautions for user

**Hazard label(s) :**



### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No information available.

## SECTION 15: Regulatory information

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

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) Classification according to Regulation (EC) No 1272/2008 [CLP] according to Regulation (EU) No. 2020/878

**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]**

<b>Hazard categories</b>	P8 - OXIDISING LIQUIDS AND SOLIDS
<b>Lower-tier requirements (t)</b>	50
<b>Upper-tier requirements (t)</b>	200

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## EU legislation

### Authorisations and/or restrictions on use

#### Restrictions on use

##### Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)

Use restriction according to REACH annex XVII, no. : 3

### National regulations

#### Water hazard class

Class : nwg (Non-hazardous to water)

## 15.2 Chemical Safety Assessment

No information available.

## SECTION 16: Other information

### 16.1 Indication of changes

None

### 16.2 Abbreviations and acronyms

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM:	ASTM International, originally known as American Society for Testing and Materials (ASTM)
EINECS:	European Inventory of Existing Commercial Chemical Substances
EC50:	Effective Concentration 50 (Maximum Effective Concentration for 0% of Individuals)
LC50:	Lethal Concentration 50 (Lethal Concentration for 50% of Individuals)
IC50:	Inhibitor Concentration 50 (Inhibitory Concentration for 50% of Individuals)
NOEL:	No Observed Effect Level (Maximum dose without effect)
DNEL:	Derived No Effect Level (Derived no-effect dose)
DMEL:	Derived Minimum Effect Level (Derived dose of minimal effect)
CLP:	Classification, Labelling and Packaging
CSR:	Chemical Safety Report
LD50:	Lethal Dose 50 (Lethal Dose for 50% of Individuals)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
Codice IMDG:	International Maritime Dangerous Goods code
PBT:	Persistent, bioaccumulative and toxic
RID:	Regulations concerning the international rail transport of Dangerous Goods
STEL:	Short term exposure limit
TLV:	Threshold limit value
TWA:	Time Weighted Average
UE:	European Union
vPvB:	Very persistent very bioaccumulative
N.D.:	Unavailable
N.A.:	Not applicable
VvVwS.:	Text of Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes

### 16.3 Key literature references and sources for data

None

### 16.4 Relevant H- and EUH-phrases (Number and full text)

H272 May intensify fire; oxidiser.

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H319

Causes serious eye irritation.

## 16.5 Training advice

None

## 16.6 Additional information

None

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The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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