

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Reference number: C0505

Issue date: 11/07/2023 Revision date: 11/07/2023 Supersedes version of: 11/07/2023 Version: 4.3

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

### 1.1. Product identifier

Product form	: Substance
Trade name	: Calcium nitrate tetrahydrate
EC-No.	: 233-332-1
CAS-No.	: 13477-34-4
REACH registration No.	: 01-2119495093-35
Product code	: C0505
Formula	: $\text{CaN}_2\text{O}_6 \cdot 4\text{H}_2\text{O}$
Product group	: Raw material

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

#### 1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

#### 1.2.2. Uses advised against

No additional information available

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

#### Supplier

Duchefa Biochemie B.V.  
A. Hofmanweg 71  
2031 BH Haarlem  
The Netherlands  
T +31(0)23-5319093 - F +31(0)23-5318027  
[info@duchefa.nl](mailto:info@duchefa.nl)

### 1.4. Emergency telephone number

Emergency number	: Supplier contact information: +31(0)23-5319093 (M-F 09:00-17:00) +31(0)6-30008100 (outside office hours)
------------------	--

Country	Organisation/Company	Address	Emergency number	Comment
	World Health Organization world directory of poison centres	<a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a>		Consult website for a local poison centre

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Oxidising Solids, Category 3	H272
Acute toxicity (oral), Category 4	H302
Serious eye damage/eye irritation, Category 1	H318
Full text of H- and EUH-statements: see section 16	

#### Adverse physicochemical, human health and environmental effects

No additional information available

# Calcium nitrate tetrahydrate

C0505

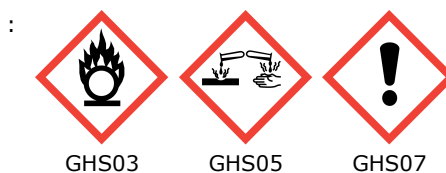
## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H272 - May intensify fire; oxidiser.  
H302 - Harmful if swallowed.  
H318 - Causes serious eye damage.

Precautionary statements (CLP)

: 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 hands thoroughly after handling.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P305+P351+P338+P310 - 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.

### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : Calcium nitrate tetrahydrate  
CAS-No. : 13477-34-4  
EC-No. : 233-332-1

Name	Product identifier	%
Calcium nitrate tetrahydrate	CAS-No.: 13477-34-4 EC-No.: 233-332-1	$\geq 99$

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Allow affected person to breathe fresh air. If you feel unwell, seek medical advice.  
First-aid measures after skin contact : Wash skin with mild soap and water. Seek medical attention if ill effect or irritation develops.  
First-aid measures after eye contact : Rinse immediately with plenty of water. Seek medical advice.  
First-aid measures after ingestion : Rinse mouth. Seek medical attention if ill effect develops.

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

No additional information available

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

No additional information available

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).

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

Hazardous decomposition products in case of fire : When exposed to heat, may decompose liberating hazardous gases. - NO<sub>x</sub>.

#### 5.3. Advice for firefighters

Precautionary measures fire : Do not enter fire area without proper protective equipment, including respiratory protection.  
Firefighting instructions : Use water spray or fog for cooling exposed containers.

### SECTION 6: Accidental release measures

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

General measures : Avoid raising powdered materials into airborne dust.

##### 6.1.1. For non-emergency personnel

No additional information available

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

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

Methods for cleaning up : On land, sweep or shovel into suitable containers.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store at room temperature. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### 7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

No additional information available

##### 8.1.2. Recommended monitoring procedures

No additional information available

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

Additional information : Provide local exhaust or general room ventilation

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

No additional information available

### 8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Avoid repeated or prolonged skin contact. If skin contact or contamination of clothing is likely, protective clothing should be worn.

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11		EN ISO 374

#### 8.2.2.3. Respiratory protection

Respiratory protection			
Device	Filter type	Condition	Standard
Dust mask	Type P2	Dust protection	EN 143

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Colourless.
Appearance	: Crystalline powder.
Molecular mass	: 236,2 g/mol
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: ≈ 45 °C
Freezing point	: Not available

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Boiling point	: > 225 °C
Flammability	: Not available
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: 5 – 7,5
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Water: ≈ 2600 g/l
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1,82 g/cm <sup>3</sup>
Relative density	: 1,896 Source: KOSHANET
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Stable under normal conditions.

### 10.4. Conditions to avoid

Open flame. Overheating. Moisture.

### 10.5. Incompatible materials

Combustible materials. Strong acids. Strong oxidizers.

### 10.6. Hazardous decomposition products

According to process conditions, hazardous decomposition products may be generated. - NOx.

## SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### Calcium nitrate tetrahydrate (13477-34-4)

LD50 oral rat	3900 mg/kg
---------------	------------

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Skin corrosion/irritation	: Not classified pH: 5 – 7,5
Serious eye damage/irritation	: Causes serious eye damage. pH: 5 – 7,5
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Other information : See actual entry in RTECS for complete information:EW300000

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information : Avoid release to the environment. Prevent entry to sewers and public waters

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of this material and its container to hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN

# Calcium nitrate tetrahydrate

C0505

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 14.1. UN number or ID number

UN-No. (ADR) : UN 1454  
UN-No. (IMDG) : UN 1454  
UN-No. (IATA) : UN 1454  
UN-No. (ADN) : UN 1454

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : CALCIUM NITRATE  
Proper Shipping Name (IMDG) : CALCIUM NITRATE  
Proper Shipping Name (IATA) : Calcium nitrate  
Proper Shipping Name (ADN) : CALCIUM NITRATE  
Transport document description (ADR) : UN 1454 CALCIUM NITRATE, 5.1, III, (E)  
Transport document description (IMDG) : UN 1454 CALCIUM NITRATE, 5.1, III  
Transport document description (IATA) : UN 1454 Calcium nitrate, 5.1, III  
Transport document description (ADN) : UN 1454 CALCIUM NITRATE, 5.1, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 5.1  
Danger labels (ADR) : 5.1



#### IMDG

Transport hazard class(es) (IMDG) : 5.1  
Danger labels (IMDG) : 5.1



#### IATA

Transport hazard class(es) (IATA) : 5.1  
Danger labels (IATA) : 5.1



#### ADN

Transport hazard class(es) (ADN) : 5.1  
Danger labels (ADN) : 5.1



### 14.4. Packing group

Packing group (ADR) : III  
Packing group (IMDG) : III  
Packing group (IATA) : III  
Packing group (ADN) : III

# Calcium nitrate tetrahydrate

C0505

## Safety Data Sheet


according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR) : O2  
Special provisions (ADR) : 208  
Limited quantities (ADR) : 5kg  
Excepted quantities (ADR) : E1  
Packing instructions (ADR) : P002, IBC08, LP02, R001  
Special packing provisions (ADR) : B3  
Mixed packing provisions (ADR) : MP10  
Portable tank and bulk container instructions (ADR) : T1, BK1, BK2, BK3  
Portable tank and bulk container special provisions (ADR) : TP33  
Tank code (ADR) : SGAV  
Tank special provisions (ADR) : TU3  
Vehicle for tank carriage : AT  
Transport category (ADR) : 3  
Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP6, AP7  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV24  
Hazard identification number (Kemler No.) : 50  
Orange plates :   
Tunnel restriction code (ADR) : E  
EAC code : 1Z

#### Transport by sea

Special provisions (IMDG) : 208, 967  
Limited quantities (IMDG) : 5 kg  
Excepted quantities (IMDG) : E1  
Packing instructions (IMDG) : P002, LP02  
IBC packing instructions (IMDG) : IBC08  
IBC special provisions (IMDG) : B3  
Tank instructions (IMDG) : T1, BK2, BK3  
Tank special provisions (IMDG) : TP33  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-Q  
Stowage category (IMDG) : A  
Stowage and handling (IMDG) : SW23  
Properties and observations (IMDG) : White deliquescent solid, soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.

#### Air transport

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Y546  
PCA limited quantity max net quantity (IATA) : 10kg  
PCA packing instructions (IATA) : 559  
PCA max net quantity (IATA) : 25kg  
CAO packing instructions (IATA) : 563  
CAO max net quantity (IATA) : 100kg  
Special provisions (IATA) : A83, A803



## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

ERG code (IATA) : 5L

### Inland waterway transport

Classification code (ADN) : O2  
Special provisions (ADN) : 208  
Limited quantities (ADN) : 5 kg  
Excepted quantities (ADN) : E1  
Carriage permitted (ADN) : B  
Equipment required (ADN) : PP  
Provisions prior to loading (ADN) : LO04  
Provisions for carriage in bulk (ADN) : CO02  
Number of blue cones/lights (ADN) : 0  
Additional requirements/Remarks (ADN) : CO02 and LO04 apply only when this substance is carried in bulk or without packaging

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

##### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

##### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

##### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

Ensure all national/local regulations are observed.

##### Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 321).

Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 2. The following requirement must be observed: Basic requirements for the implementation of the submission (according to § 8 paragraph 1, 3 and 4).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

# Calcium nitrate tetrahydrate

C0505

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed  
SZW-lijst van mutagene stoffen : The substance is not listed  
SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed  
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed  
SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

## 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Revision date	Modified	
	Supersedes	Modified	
	Issue date	Modified	
1.1	Formula	Modified	
2.2	Precautionary statements (CLP)	Modified	

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet

Data sources : Manufacturer.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
Ox. Sol. 3	Oxidising Solids, Category 3

Safety Data Sheet (SDS), EU Duchefa 2023