

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

CALCIUM CHLORIDE

Version 5.0

Print Date 2019/05/08

Revision date / valid from 2019/05/08

MSDS code: MCAC100

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : CALCIUM CHLORIDE
Substance name : calcium chloride
Index-No. : 017-013-00-2
CAS-No. : 10043-52-4
EC-No. : 233-140-8
EU REACH-Reg. No. : 01-2119494219-28-xxxx

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

Use of the Substance/Mixture : Identified use: See table in front of appendix for a complete overview of identified uses.
Uses advised against : At this moment we have not identified any uses advised against
Remarks : Before referring to any Exposure Scenario attached to this Safety Data Sheet please check the grade of the product: the Exposure Scenarios presented are not related to all product grade

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK Limited
Alpha House, Lawnswood Business Park
GB LS16 6QY Leeds
Telephone : +44 (0) 113 3879 200
Telefax : +44 (0) 113 3879 280
E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008

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Hazard class	Hazard category	Target Organs	Hazard statements
Eye irritation	Category 2	---	H319

For the full text of the H-Statements mentioned in this Section, see Section 16.


Most important adverse effects

Human Health : See section 11 for toxicological information.

Physical and chemical hazards : See section 9/10 for physicochemical information.

Potential environmental effects : See section 12 for environmental information.

2.2. Label elements**Labelling according to Regulation (EC) No 1272/2008**

Hazard symbols : 

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements

Prevention : P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.

Response : P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Hazardous components which must be listed on the label:

- calcium chloride

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

CALCIUM CHLORIDE**SECTION 3: Composition/information on ingredients****3.1. Substances**

		Classification (REGULATION (EC) No 1272/2008)	
Hazardous components	Amount [%]	Hazard class / Hazard category	Hazard statements
calcium chloride			
Index-No. : 017-013-00-2	>= 90 - <= 100	Eye Irrit.2	H319
CAS-No. : 10043-52-4			
EC-No. : 233-140-8			
EU REACH- : 01-2119494219-28-xxxx			
Reg. No.			

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice	: Take off all contaminated clothing immediately. If symptoms call a physician.
If inhaled	: Remove to fresh air. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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

Symptoms	: See Section 11 for more detailed information on health effects and symptoms.
Effects	: irritant effects

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

Treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

CALCIUM CHLORIDE**5.1. Extinguishing media**

- Suitable extinguishing media : The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet

5.2. Special hazards arising from the substance or mixture

- Specific hazards during firefighting : In case of fire hazardous decomposition products may be produced such as: Hydrogen chloride gas

5.3. Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear personal protective equipment.
- Further advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

- Personal precautions : Avoid dust formation. Use personal protective equipment. Keep away unprotected persons. Ensure adequate ventilation. Avoid contact with skin and eyes.

6.2. Environmental precautions

- Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

- Methods and materials for containment and cleaning up : Use mechanical handling equipment. Keep in suitable, closed containers for disposal.
- Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

- See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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- Advice on safe handling : Avoid dust formation. Keep container tightly closed. Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.
- Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Store in original container. Suitable materials for containers: polyethylene; Polypropylene; Unsuitable materials for containers: Aluminium
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Further information on storage conditions : Keep tightly closed in a dry and cool place.
- Advice on common storage : Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

- Specific use(s) : Identified use: See table in front of appendix for a complete overview of identified uses.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Other Occupational Exposure Limit Values**

- (Additional) Information : Contains no substances with occupational exposure limit values.
Contains no substances with occupational exposure limit values.

Component:	calcium chloride	CAS-No. 10043-52-4
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Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

- DNEL
Workers, Acute - local effects, Inhalation : 10 mg/m³
- DNEL
Workers, Long-term - local effects, Inhalation : 5 mg/m³
- DNEL

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Consumers, Acute - local effects, Inhalation : 5 mg/m³

DNEL

Consumers, Long-term - local effects, Inhalation : 2.5 mg/m³

Predicted No Effect Concentration (PNEC)

No PNEC value was derived. :

8.2. Exposure controls**Appropriate engineering controls**

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment*Respiratory protection*

Advice : Required if dust is released
Respiratory protection complying with EN 141.
Recommended Filter type:
Particle filter:P2
Particle filter:P3

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Material : Natural Rubber
Break through time : ≥ 480 min
Glove thickness : 0.5 mm

Material : polychloroprene
Break through time : ≥ 480 min
Glove thickness : 0.5 mm

Material : Nitrile rubber
Break through time : ≥ 480 min
Glove thickness : 0.35 mm

Material : butyl-rubber
Break through time : ≥ 480 min

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Glove thickness : 0.5 mm

Material : Fluorinated rubber
Break through time : ≥ 480 min
Glove thickness : 0.4 mm

Material : Polyvinylchloride
Break through time : ≥ 480 min
Glove thickness : 0.5 mm

Eye protection

Advice : Safety goggles

Skin and body protection

Advice : Wear personal protective equipment.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Form : solid

Colour : white

Odour : odourless

Odour Threshold : Not applicable

pH : ca. 7 - 11 (100 g/l ; 20 °C)

Freezing point/range : 782 °C

Boiling point/boiling range : 1,670 °C

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : Not applicable

Upper explosion limit : Not applicable

Lower explosion limit : Not applicable

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Vapour pressure	: 0.1 Pa (20 °C)
Relative vapour density	: no data available
Density	: 2.15 g/cm ³ (20 °C)
Water solubility	: 740 g/l (20 °C)
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: no data available
Thermal decomposition	: > 772 °C
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: EU legislation: Not explosive
Explosivity	: Product is not explosive.
Oxidizing properties	: no data available

9.2. Other information

Bulk density	: 1155 - 1420 kg/m ³ (20 °C)
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Advice	: No decomposition if stored and applied as directed.
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10.2. Chemical stability

Advice	: Stable under recommended storage conditions.
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10.3. Possibility of hazardous reactions

Hazardous reactions	: No dangerous reaction known under conditions of normal use.
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10.4. Conditions to avoid

Conditions to avoid	: Exposure to moistureProduct is hygroscopic.
Thermal decomposition	: > 772 °C

10.5. Incompatible materials

Materials to avoid	: Strong reducing agents, Strong oxidizing agents
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10.6. Hazardous decomposition products

Hazardous decomposition	: Fire may cause evolution of: Irritant gases/vapours
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CALCIUM CHLORIDE

products

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Component:	calcium chloride	CAS-No. 10043-52-4
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Acute toxicity**Oral**

LD50 Oral : 2120 mg/kg body weight(Rat, male and female) (OECD Test Guideline 401)

Inhalation

no data available

Dermal

LD50 Dermal : > 5000 mg/kg body weight(Rabbit, male and female)

Irritation**Skin**

Result : No skin irritation (Rabbit) (OECD Test Guideline 404)

Eyes

Result : Irritating to eyes. (Rabbit) (OECD - Guideline 405)

Sensitisation

Result : Study scientifically not justified.

CMR effects**Carcinogenicity**

It dissociates into ions that are present physiologically in relatively high levels in vertebrates. Therefore, a study is considered (scientifically) unnecessary.

CMR Properties

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Carcinogenicity	:	Study scientifically not justified.
Mutagenicity	:	In vitro tests did not show mutagenic effects
Teratogenicity	:	Did not show teratogenic effects in animal experiments.
Reproductive toxicity	:	Study scientifically not justified.

Teratogenicity

NOAEL	:	169 mg/kg
Maternal		(Rabbit)(OECD Test Guideline 414)

Specific Target Organ Toxicity**Single exposure**

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
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Repeated exposure

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
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Other toxic properties**Repeated dose toxicity**

It dissociates into ions that are present physiologically in relatively high levels in vertebrates. Therefore, a study is considered (scientifically) unnecessary.

Aspiration hazard

Not applicable,

SECTION 12: Ecological information**12.1. Toxicity**

Component:	calcium chloride	CAS-No. 10043-52-4
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Acute toxicity**Fish**

LC50	:	4630 mg/l (Pimephales promelas (fathead minnow); 96 h) (static test; EPA 600/4-90/027)
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CALCIUM CHLORIDE**Toxicity to daphnia and other aquatic invertebrates**

NOEC	:	2000 mg/l (Daphnia magna; 48 h) (static test; OECD Test Guideline 202)
LC50	:	2400 mg/l (Daphnia magna; 48 h) (static test; OECD Test Guideline 202)

algae

EC50	:	2900 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (OECD Test Guideline 201)
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Bacteria

: Study scientifically unjustified.

12.2. Persistence and degradability

Component:	calcium chloride	CAS-No. 10043-52-4
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Persistence and degradability**Persistence**

Result	:	(Related to: Water) decomposition by hydrolysis.
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Biodegradability

Result	:	The methods for determining the biological degradability are not applicable to inorganic substances.
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12.3. Bioaccumulative potential

Component:	calcium chloride	CAS-No. 10043-52-4
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Bioaccumulation

Result	:	Bioaccumulation is not expected.
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12.4. Mobility in soil

Component:	calcium chloride	CAS-No. 10043-52-4
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Mobility

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Water : The product is water soluble.

12.5. Results of PBT and vPvB assessment

Component:	calcium chloride	CAS-No. 10043-52-4
Results of PBT and vPvB assessment		

Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

12.6. Other adverse effects

Data for the product
Additional ecological information

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

- Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
- Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

CALCIUM CHLORIDE**14.3. Transport hazard class(es)**

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Data for the product**

EU. REACH, Annex XVII, : Point Nos.: , 3; Listed
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

Component:	calcium chloride	CAS-No. 10043-52-4
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EU. Regulation EU No. : ; Not listed
649/2012 concerning the
export and import of
dangerous chemicals

EU. REACH, Annex XVII, : ; The substance/mixture does not fall under this legislation.
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

EU. Directive : ; The substance/mixture does not fall under this legislation.
2012/18/EU (SEVESO
III) Annex I

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UK. Releases to air and water (UK ISR) : Annual reporting level threshold: 10,000 kg

WGK (DE) : WGK 1: slightly hazardous to water: 220

Notification status calcium chloride:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	233-140-8
ENCS (JP)	YES	(1)-176
IECSC	YES	
INSQ	YES	
ISHL (JP)	YES	(1)-176
KECI (KR)	YES	KE-04496
NZIOC	YES	HSR003389
PICCS (PH)	YES	
TSCA	YES	

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3.**

H319 Causes serious eye irritation.

Abbreviations and Acronyms

BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals

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LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
PNEC	predicted no-effect concentration
STOT	specific target organ toxicity
SVHC	substance of very high concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
vPvB	very persistent and very bioaccumulative

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	:	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	:	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	:	<p>The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.</p> <p>The information contained in this Safety Data Sheet 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.</p>

|| Indicates updated section.

CALCIUM CHLORIDE