

# Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Calcium hypochlorite $\geq 65$ % Cl, granulated

article number: **5164**  
Version: **3.0 en**  
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Version: (2)

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

### 1.1 Product identifier

Identification of the substance	<b>Calcium hypochlorite <math>\geq 65</math> % Cl, granulated</b>
Article number	5164
Index No (GB CLP)	017-012-00-7
EC number	231-908-7
CAS number	7778-54-3

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin. Do not use for private purposes (household). Food, drink and animal feedingstuffs.

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

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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### Classification acc. to GHS

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
2.14	Oxidising solid	2	Ox. Sol. 2	H272
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	Skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
4.1A	Hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400

### Supplemental hazard information

Code	Supplemental hazard information
EUH031	contact with acids liberates toxic gas

For full text of abbreviations: see SECTION 16

### The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Spillage and fire water can cause pollution of watercourses.

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS03, GHS05,  
GHS07, GHS09



#### Hazard statements

H272 May intensify fire; oxidiser  
H302 Harmful if swallowed  
H314 Causes severe skin burns and eye damage  
H400 Very toxic to aquatic life

#### Precautionary statements

##### Precautionary statements - prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P280 Wear protective gloves/eye protection

##### Precautionary statements - response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 Immediately call a POISON CENTER/doctor  
P370+P378 In case of fire: Use sand to extinguish - never use water

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### Supplemental hazard information

EUH031 Contact with acids liberates toxic gas.

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Calcium hypochlorite
Molecular formula	Ca(OCl) <sub>2</sub>
Molar mass	143 g/mol
CAS No	7778-54-3
EC No	231-908-7
Index No (GB CLP)	017-012-00-7

#### Impurities/additives/constituents:

Name of substance	Identifier	Wt%
Sodium chloride	CAS No 7647-14-5 EC No 231-598-3	$\leq 16$
Water	CAS No 7732-18-5 EC No 231-791-2	$\leq 8,5$
Calcium carbonate	CAS No 471-34-1 EC No 207-439-9	$\leq 5$
Calcium hydroxide	CAS No 1305-62-0 EC No 215-137-3	$\leq 3$
Calcium chloride	CAS No 10043-52-4 EC No 233-140-8 Index No 017-013-00-2	$\leq 2$
Calcium chlorate	CAS No 10137-74-3 EC No 233-378-2	$\leq 2$

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Substance, Specific Conc. Limits, M-factors, ATE			
Specific Conc. Limits	M-Factors	ATE	Exposure route
Skin Corr. 1B; H314: $C \geq 5$ % Skin Irrit. 2; H315: $1 \% \leq C < 5$ % Eye Dam. 1; H318: $C \geq 3$ % Eye Irrit. 2; H319: $0,5 \% \leq C < 3$ %	M-factor (acute) = 10	850 mg/kg	oral

### Remarks

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. Rinse mouth with water (only if the person is conscious). Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

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

Following inhalation: Cough, pain, choking, and breathing difficulties,  
Following skin contact: Causes severe burns, Causes poorly healing wounds,  
After eye contact: Causes burns, Risk of serious damage to eyes, Risk of blindness,  
Following ingestion: Vomiting, Corrosion, Gastric perforation

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

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
sand, cement

#### Unsuitable extinguishing media

water jet

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

Oxidising property. Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: Hydrogen chloride (HCl)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

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

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically. Control of dust.

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Handle and open container with care. Avoid dust formation. Clear contaminated areas thoroughly.

#### Measures to prevent fire as well as aerosol and dust generation

Keep away from combustible material.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Store in a dry place. Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage. Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

#### Protect against external exposure, such as

high temperatures, UV-radiation/sunlight, humidity, contact with air/oxygen

#### Consideration of other advice:

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 4 - 15 °C

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

Relevant DNELs of components						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Sodium chloride	7647-14-5	DNEL	2.069 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Sodium chloride	7647-14-5	DNEL	2.069 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
Sodium chloride	7647-14-5	DNEL	295,5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Sodium chloride	7647-14-5	DNEL	295,5 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Calcium carbonate	471-34-1	DNEL	6,36 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects

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Relevant DNELs of components						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Calcium hydroxide	1305-62-0	DNEL	1 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Calcium hydroxide	1305-62-0	DNEL	4 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
Calcium chloride	10043-52-4	DNEL	5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Calcium chloride	10043-52-4	DNEL	10 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Sodium chloride	7647-14-5	PNEC	5 mg/l	aquatic organisms	freshwater	short-term (single instance)
Sodium chloride	7647-14-5	PNEC	500 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Sodium chloride	7647-14-5	PNEC	4,86 mg/kg	terrestrial organisms	soil	short-term (single instance)
Calcium hydroxide	1305-62-0	PNEC	0,49 mg/l	aquatic organisms	freshwater	short-term (single instance)
Calcium hydroxide	1305-62-0	PNEC	0,32 mg/l	aquatic organisms	marine water	short-term (single instance)
Calcium hydroxide	1305-62-0	PNEC	3 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Calcium hydroxide	1305-62-0	PNEC	1,080 mg/kg	terrestrial organisms	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection. Wear face protection.

#### Skin protection



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### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

### • type of material

NBR (Nitrile rubber)

### • material thickness

$\geq 0,3$  mm

### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). Type: B-P2 (combined filters for acidic gases and particles, colour code: Grey/White).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	solid
Form	granulate
Colour	white
Odour	like: - chlorine
Melting point/freezing point	100 °C (spontaneous decomposition)
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	>100 °C
pH (value)	11,5 (25 °C)



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Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	200 – 220 g/l at 20 °C (spontaneous decomposition)
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	not determined
<u>Density and/or relative density</u>	
Density	2,35 g/cm <sup>3</sup> at 20 °C
Relative vapour density	Information on this property is not available.
Particle characteristics	No data available.
<u>Other safety parameters</u>	
Oxidising properties	oxidiser

### 9.2 Other information

Information with regard to physical hazard classes:	There is no additional information.
Other safety characteristics:	There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

It's a reactive substance. Oxidising property.

### 10.2 Chemical stability

Reactivity if heated. Moisture-sensitive. May cause decomposition by long-term light influence.

### 10.3 Possibility of hazardous reactions

Contact with acids liberates toxic gas => Chlorine (Cl<sub>2</sub>),  
**Violent reaction with:** Acetylene, Alkali metals, Alcohols, Amines, Ammonia (NH<sub>3</sub>), Acids,  
=> Explosive properties

### 10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above: >100 °C. Protect from moisture.

### 10.5 Incompatible materials

combustible materials

#### Release of toxic materials with

Acids.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Classification acc. to GHS

##### Acute toxicity

Harmful if swallowed.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	850 mg/kg	rat		TOXNET

Acute toxicity of components					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Sodium chloride	7647-14-5	oral	LD50	3.000 mg/kg	rat
Sodium chloride	7647-14-5	dermal	LD50	>10.000 mg/kg	rabbit
Calcium carbonate	471-34-1	oral	LD50	>2.000 mg/kg	rat
Calcium carbonate	471-34-1	inhalation: dust/mist	LC50	>3 mg/l/4h	rat
Calcium carbonate	471-34-1	dermal	LD50	>2.000 mg/kg	rat
Calcium hydroxide	1305-62-0	oral	LD50	>2.000 mg/kg	rat
Calcium hydroxide	1305-62-0	inhalation: dust/mist	LC50	>6,04 mg/l/4h	rat
Calcium hydroxide	1305-62-0	dermal	LD50	>2.500 mg/kg	rabbit
Calcium chloride	10043-52-4	oral	LD50	2.120 mg/kg	rat
Calcium chloride	10043-52-4	dermal	LD50	>5.000 mg/kg	rabbit

##### Skin corrosion/irritation

Causes severe skin burns and eye damage.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

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### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

#### • If in eyes

causes burns, Causes serious eye damage, risk of blindness

#### • If inhaled

cough, pain, choking, and breathing difficulties

#### • If on skin

causes severe burns, causes poorly healing wounds

#### • Other information

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life.

Aquatic toxicity (acute) of components					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Sodium chloride	7647-14-5	LC50	5.840 mg/l	fish	96 h
Calcium carbonate	471-34-1	EC50	>14 mg/l	algae	72 h
Calcium hydroxide	1305-62-0	LC50	50,6 mg/l	fish	96 h
Calcium hydroxide	1305-62-0	EC50	49,1 mg/l	aquatic invertebrates	48 h
Calcium hydroxide	1305-62-0	ErC50	184,6 mg/l	algae	72 h
Calcium chloride	10043-52-4	LC50	4.630 mg/l	fish	96 h
Calcium chloride	10043-52-4	ErC50	>4.000 mg/l	algae	72 h

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### Aquatic toxicity (chronic) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Sodium chloride	7647-14-5	EC50	2.430 mg/l	algae	120 h
Calcium carbonate	471-34-1	EC50	>1.000 mg/l	microorganisms	3 h
Calcium hydroxide	1305-62-0	LC50	53,1 mg/l	aquatic invertebrates	14 d
Calcium hydroxide	1305-62-0	EC50	300,4 mg/l	microorganisms	3 h
Calcium chloride	10043-52-4	EC50	610 mg/l	aquatic invertebrates	21 d

## 12.2 Persistence and degradability

### Degradability of components

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Calcium carbonate	471-34-1	carbon dioxide generation	90 %	28 d		ECHA

## 12.3 Bioaccumulative potential

Data are not available.

## 12.4 Mobility in soil

Data are not available.

## 12.5 Results of PBT and vPvB assessment

Data are not available.

## 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

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### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### Properties of waste which render it hazardous

- HP 2 oxidising
- HP 4 irritant - skin irritation and eye damage
- HP 6 acute toxicity
- HP 8 corrosive
- HP 12 release of an acute toxic gas
- HP 14 ecotoxic

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADRRID	UN 1748
IMDG-Code	UN 1748
ICAO-TI	UN 1748

### 14.2 UN proper shipping name

ADRRID	CALCIUM HYPOCHLORITE, DRY
IMDG-Code	CALCIUM HYPOCHLORITE, DRY
ICAO-TI	Calcium hypochlorite, dry

### 14.3 Transport hazard class(es)

ADRRID	5.1
IMDG-Code	5.1
ICAO-TI	5.1

### 14.4 Packing group

ADRRID	II
IMDG-Code	II
ICAO-TI	II

### 14.5 Environmental hazards

hazardous to the aquatic environment

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

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

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

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### Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) Additional information

Proper shipping name	CALCIUM HYPOCHLORITE, DRY
Particulars in the transport document	UN1748, CALCIUM HYPOCHLORITE, DRY, 5.1, II, (E), environmentally hazardous
Classification code	O2
Danger label(s)	5.1, "Fish and tree"
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	314
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	50
<b>Emergency Action Code</b>	1W

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

<b>Classification code</b>	O2
<b>Danger label(s)</b>	5.1, "Fish and tree"



<b>Environmental hazards</b>	Yes Hazardous to water
<b>Special provisions (SP)</b>	314
<b>Excepted quantities (EQ)</b>	E2
<b>Limited quantities (LQ)</b>	1 kg
<b>Transport category (TC)</b>	2
<b>Hazard identification No</b>	50

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	CALCIUM HYPOCHLORITE, DRY
Particulars in the shipper's declaration	UN1748, CALCIUM HYPOCHLORITE, DRY, 5.1, II, MARINE POLLUTANT
Marine pollutant	yes (P) (hazardous to the aquatic environment)
Danger label(s)	5.1, "Fish and tree"



Special provisions (SP)	314
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Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
EmS	F-H, S-Q
Stowage category	D
Segregation group	8 - Hypochlorites

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Calcium hypochlorite, dry
Particulars in the shipper's declaration	UN1748, Calcium hypochlorite, dry, 5.1, II
Environmental hazards	YES (hazardous to the aquatic environment)
Danger label(s)	5.1



Special provisions (SP)	A136
Excepted quantities (EQ)	E2
Limited quantities (LQ)	2,5 kg

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

##### Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
P8	oxidising liquids and solids	50	200	55)

##### Notation

55) Oxidising liquids, category 1, 2 or 3, or oxidising solids, category 1, 2 or 3

##### Deco-Paint Directive

VOC content	0 %
VOC content (Water content was discounted)	0 g/l

##### Industrial Emissions Directive (IED)

VOC content	0 %
VOC content (Water content was discounted)	0 g/l

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

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### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

### Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Calcium hypochlorite	Metals and their compounds		a)	

#### Legend

a) Indicative list of the main pollutants

### Regulation on the marketing and use of explosives precursors

not listed

### Regulation on drug precursors

not listed

### Regulation on substances that deplete the ozone layer (ODS)

not listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

### Regulation on persistent organic pollutants (POP)

not listed

### National regulations(GB)

#### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

#### Restrictions according to GB REACH, Annex 17

not listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed



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Country	Inventory	Status
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ .	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$ .	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances

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Abbr.	Descriptions of used abbreviations
EmS	Emergency Schedule
ErC50	$\equiv$ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

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Code	Text
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.