

Safety data sheet

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



Calcium hypochlorite ≥ 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	Calcium hypochlorite ≥ 65 % Cl, granulated
Article number	5164
Registration number (REACH)	It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a).
Index number in CLP Annex VI	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
Website: www.carlroth.de

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

e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	+353 1 809 2166	https://www.poisons.ie/

Safety data sheet

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



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

article number: 5164

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

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 according to Regulation (EC) No 1272/2008 (CLP)

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

Safety data sheet

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



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

article number: 5164

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

Supplemental hazard information

EUH031 Contact with acids liberates toxic gas.

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H314 Causes severe skin burns and eye damage.
P280 Wear protective gloves/eye protection.
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.
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	$\text{Ca}(\text{OCl})_2$
Molar mass	143 g/mol
CAS No	7778-54-3
EC No	231-908-7
Index No	017-012-00-7

Impurities/additives/constituents:

Name of substance	Identifier	Wt%
Sodium chloride	CAS No 7647-14-5 EC No 231-598-3	≤ 16

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

Name of substance	Identifier	Wt%
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	≤ 5
Calcium hydroxide	CAS No 1305-62-0 EC No 215-137-3	≤ 3
Calcium chloride	CAS No 10043-52-4 EC No 233-140-8 Index No 017-013-00-2	≤ 2
Calcium chlorate	CAS No 10137-74-3 EC No 233-378-2	≤ 2

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.

Safety data sheet

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



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

article number: 5164

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes hold-
ing 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

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.

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

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.

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.

Safety data sheet

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



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

article number: 5164

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 ³	human, inhalatory	worker (industry)	chronic - systemic effects
Sodium chloride	7647-14-5	DNEL	2.069 mg/m ³	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 ³	human, inhalatory	worker (industry)	chronic - local effects
Calcium hydroxide	1305-62-0	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Calcium hydroxide	1305-62-0	DNEL	4 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
Calcium chloride	10043-52-4	DNEL	5 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Calcium chloride	10043-52-4	DNEL	10 mg/m ³	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)

Safety data sheet

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



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

article number: 5164

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection. Wear face protection.

Skin protection



• 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.

Safety data sheet

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



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

article number: 5164

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)
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 ³ 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.

Safety data sheet

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



Calcium hypochlorite ≥65 % Cl, granulated

article number: 5164

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 (Cl₂),

Violent reaction with: Acetylene, Alkali metals, Alcohols, Amines, Ammonia (NH₃), 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.

SECTION 11: Toxicological information

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

Classification according to GHS (1272/2008/EC, CLP)

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

Safety data sheet

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



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

article number: 5164

Acute toxicity of components					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Calcium hydroxide	1305-62-0	dermal	LD50	$>2.500 \text{ mg/kg}$	rabbit
Calcium chloride	10043-52-4	oral	LD50	2.120 mg/kg	rat
Calcium chloride	10043-52-4	dermal	LD50	$>5.000 \text{ mg/kg}$	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).

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 $\geq 0,1\%$.

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

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

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.

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

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.

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

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: **5164**

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

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

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

Classification code	O2
Danger label(s)	5.1, "Fish and tree"
Environmental hazards	Yes Hazardous to water

Safety data sheet

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



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

article number: 5164

Special provisions (SP)	314
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
Transport category (TC)	2
Hazard identification No	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
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)

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)				
Name of substance	Name acc. to inventory	CAS No	Restriction	No
Calcium hypochlorite	substances in tattoo inks and permanent make-up		R75	75

Legend

- R75 1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
- in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
 - in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
 - in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
 - in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
 - 0,1 % by weight, if the substance is used solely as a pH regulator;
 - 0,01 % by weight, in all other cases;
 - in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
 - in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
 - "Rinse-off products";
 - "Not to be used in products applied on mucous membranes";
 - "Not to be used in eye products";
 - in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
 - in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
 - Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
 - Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:
 - the statement "Mixture for use in tattoos or permanent make-up";
 - a reference number to uniquely identify the batch;
 - the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
 - the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;
 - the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
 - the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
 - safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No

Safety data sheet

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



Calcium hypochlorite ≥65 % Cl, granulated

article number: 5164

Legend

1272/2008.

The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.

Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.

8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

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

Not listed.

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

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

not listed

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

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

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
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)

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

Legend

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. According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.

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)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
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
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
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association

Safety data sheet

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



Calcium hypochlorite ≥ 65 % Cl, granulated

article number: 5164

Abbr.	Descriptions of used abbreviations
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)
SVHC	Substance of Very High Concern
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

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)

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.