

Calcium Hypochlorite

Version number: 3.0

SECTION 1: Identification

1.1 Product identifier

Trade name **Calcium Hypochlorite**

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

Relevant identified uses Water disinfectant

Uses advised against Do not use for squirting or spraying
Do not use for products which come into direct contact with the skin

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC
179 Calle Magdalena Suite 100
Encinitas, California CA 92024
United States

Telephone: +1 (760) 635 8500
e-mail: info@valudor.com
Website: www.valudor.com

1.4 Emergency telephone number

Emergency information 800-535-5053 (Infotrac)
As above or nearest toxicological information center.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
A.10	acute toxicity (oral)	4	Acute Tox. 4	H302
A.2	skin corrosion/irritation	1	Skin Corr. 1	H314
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
B.14	oxidizing solid	2	Ox. Sol. 2	H272

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.

2.2 Label elements

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Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word danger

Pictograms

GHS03, GHS05, GHS07



Hazard statements

H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep/store away from clothing/combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P260 Do not breathe dust.
P264 Wash hands and face thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
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.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use water to extinguish.
P405 Store locked up.
P501 Dispose of contents/container to an authorized waste treatment facility.

Hazardous ingredients for labelling calcium hypochlorite
calcium dihydroxide

2.3 Other hazards

Warning! Do not use together with other products. May release dangerous gases (chlorine).

Hazards not otherwise classified

Contact with acids liberates toxic gas.

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

Identifiers

CAS No 7778-54-3

Molecular formula $\text{Ca Cl}_2 \text{ O}_2$

Molar mass 143 g/mol

3.2 Mixtures

Description of the mixture

Hazardous ingredients				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
calcium hypochlorite	CAS No 7778-54-3	60 – 80	Acute Tox. 4 / H302 Skin Corr. 1 / H314 Eye Dam. 1 / H318 Ox. Sol. 2 / H272 EUH031	
calcium chloride	CAS No 10043-52-4	≤ 5	Eye Irrit. 2A / H319	
calcium dihydroxide	CAS No 1305-62-0	≤ 4	Eye Dam. 1 / H318	

Remarks

For full text of H-phrases: see SECTION 16

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Self-protection of the first aider.

Remove affected person from the danger area and lay down.

Do not leave affected person unattended.

Take off immediately all contaminated clothing.

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

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following skin contact

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After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Call a physician immediately. Causes poorly healing wounds.

Wash contaminated clothing before reuse.

Following eye contact

Rinse immediately carefully and thoroughly with eye shower or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Get immediate medical advice/attention.

Following ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting.

Call a physician immediately.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

This information is not available.

4.3 Indication of any immediate medical attention and special treatment needed

Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

water

Unsuitable extinguishing media

dry extinguishing powder containing ammonium compounds

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Deposited combustible dust has considerable explosion potential.

Oxidizing property.

Hazardous combustion products

hydrogen chloride (HCl), chlorine (Cl₂), toxic gases/vapours

5.3 Advice for firefighters

Non-combustible.

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, Wear self-contained breathing apparatus

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Control of dust.

Do not breathe dust.

Do not get in eyes, on skin, or on clothing.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

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.

Collect spillage.

Kieselgur (diatomite).

Universal binder.

Sand.

Appropriate containment techniques

Neutralization techniques.

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

Measures to prevent fire as well as aerosol and dust generation

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Use local and general ventilation.

Removal of dust deposits.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

Handling of incompatible substances or mixtures

Do not mix with acids, Water.

Do not mix with other chemicals.

Do not mix with reducing agents.

Keep away from

organic absorbing material, pulp/paper, avoid mixing with flammable or combustible substances (e.g. sawdust)

Measures to protect the environment

Avoid release to the environment.

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

Do not breathe dust.

Do not get in eyes, on skin, or on clothing.

Wash hands and face thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

Keep reduction valves/valves and fittings free from oil and grease.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Observe compatible storage of chemicals.

Keep/store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

Store away from reducing agents.

Store away from acids.

Protect against external exposure, such as

heat, humidity, UV-radiation/sunlight

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Store in a dry place. Store in a closed container.

Store in a well-ventilated place. Keep cool.

Storage temperature

recommended storage temperature: <35 °C

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Packaging compatibilities

Only packagings which are approved (e.g. acc. to DOT) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
US	calcium hydroxide	1305-62-0	PEL (CA)	-	5	-	-	-	Cal/OSHA PEL
US	calcium hydroxide	1305-62-0	REL	-	5 (10 h)	-	-	-	NIOSH REL
US	calcium hydroxide	1305-62-0	TLV®	-	5	-	-	-	ACGIH® 2025
US	calcium hydroxide	1305-62-0	PEL	-	15	-	-	dust	29 CFR 1910.1000
US	calcium hydroxide	1305-62-0	PEL	-	5	-	-	r	29 CFR 1910.1000
US	calcium carbonate	471-34-1	REL	-	5 (10 h)	-	-	r, synthetic	NIOSH REL
US	calcium carbonate	471-34-1	REL	-	10 (10 h)	-	-	synthetic	NIOSH REL
US	chlorine	7782-50-5	PEL (CA)	0.5	1.5	1	3	proc	Cal/OSHA PEL
US	chlorine	7782-50-5	REL	-	-	-	-	proc	NIOSH REL
US	chlorine	7782-50-5	TLV®	0.1	0.29	0.4	1.16	proc	ACGIH® 2025
US	chlorine	7782-50-5	PEL	-	-	-	-	proc	29 CFR 1910.1000

Notation

dust as dust

proc substances released during the process

r respirable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

synthetic synthetic

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Notation

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
CR: chloroprene (chlorobutadiene) rubber	-	-

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.

Body protection

Protective clothing for use against solid particulates.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particulate filter device (EN 143).

P2 (filters at least 94 % of airborne particles, color code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state

solid
(Solid in various forms: tablets, granulate)

Color

white - whitish - grey

Odor

Like chlorine

Odor threshold

not determined

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Other safety parameters

pH (value)	11.5 11 – 12 (in aqueous solution: 1 % (^w / _w))
Melting point/freezing point	100 °C (decomposes)
Boiling point or initial boiling point and boiling range	175 °C
Flash point	not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	non-combustible
Explosive limits	not determined
Explosion limits of dust clouds	not determined
Vapor pressure	Not applicable
Density and/or relative density	
Density	1.1 – 1.3 g/cm ³ at 20 °C
Relative density	Not applicable
Relative vapour density	Not determined
Solubility(ies)	
Water solubility	210 g/l at 25 °C not miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	Not determined
Auto-ignition temperature	not determined
Decomposition temperature	170 – 180 °C
Viscosity	not relevant (solid)
Explosive properties	none
Oxidizing properties	oxidizer
Information for relevant hazard classes according to GHS	there is no additional information
9.2 Other information	there is no additional information

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SECTION 10: Stability and reactivity

10.1 Reactivity

The mixture contains reactive substance(s).
Oxidizing property.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Dangerous/dangerous reactions with Oxidizer, Alcohol, Amine, Acid, Alkalines.
Combustible materials.
Warning! Do not use together with other products. May release dangerous gases (chlorine).

10.4 Conditions to avoid

Control of dust.

10.5 Incompatible materials

acids, reducing agents, combustible materials, amine, metal
Release of toxic materials with:
acids

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Harmful if swallowed.

Dermal, Inhalation.

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Acute toxicity Calcium hypochlorite.

Exposure route	Endpoint	Value	Species	Source
oral	LD50	850 mg/kg	rat	GESTIS

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Acute toxicity of components

Acute toxicity Constituents.

Acute toxicity estimate (ATE) of components			
Name of substance	CAS No	Exposure route	ATE
calcium hypochlorite	7778-54-3	oral	850 mg/kg
calcium hypochlorite	7778-54-3	dermal	>2,000 mg/kg
calcium chloride	10043-52-4	oral	2,301 mg/kg
calcium dihydroxide	1305-62-0	oral	>2,000 mg/kg
calcium dihydroxide	1305-62-0	dermal	>2,500 mg/kg
calcium dihydroxide	1305-62-0	inhalation: dust/mist	>6.04 mg/l/4h

Acute toxicity of components							
Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
calcium hypochlorite	7778-54-3	oral	LD50	850 mg/kg	rat	-	GESTIS
calcium hypochlorite	7778-54-3	dermal	LD50	>2,000 mg/kg	rabbit	OECD Guideline 402	ECHA Chem
calcium chloride	10043-52-4	oral	LD50	2,301 mg/kg	rat	OECD Guideline 401	ECHA
calcium chloride	10043-52-4	dermal	LD0	>5,000 mg/kg	rabbit	-	ECHA
calcium dihydroxide	1305-62-0	oral	LD0	>2,000 mg/kg	rat, female	OECD Guideline 425	ECHA
calcium dihydroxide	1305-62-0	dermal	LD0	>2,500 mg/kg	rabbit	OECD Guideline 402	ECHA
calcium dihydroxide	1305-62-0	inhalation: dust/mist	LC50	>6.04 mg/l/4h	rat	OECD Guideline 436	ECHA

Skin corrosion/irritation

Causes severe skin burns and eye damage.

(1272/2008/EC, Annex VI)

Serious eye damage/eye irritation

Causes serious eye damage.

(1272/2008/EC, Annex VI)

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Respiratory or skin sensitization

Skin sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

IARC Monographs

None of the ingredients are listed.

National Toxicology Program (United States)

None of the ingredients are listed.

OSHA Carcinogens

None of the ingredients are listed.

Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

Aquatic toxicity (acute) Constituents.

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
calcium hypochlorite	7778-54-3	EC50	48 h	35 µg/l	water flea (Daphnia)	EPA OPPTS 850.1010	ECHA Chem
calcium hypochlorite	7778-54-3	EC50	72 h	0.018 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201	ECHA Chem
calcium hypochlorite	7778-54-3	LC50	96 h	0.27 mg/l	fish	-	GESTIS
calcium hypochlorite	7778-54-3	ErC50	72 h	0.036 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201	ECHA Chem
calcium chloride	10043-52-4	LC50	48 h	2,400 mg/l	daphnia magna	OECD Guideline 202	ECHA
calcium chloride	10043-52-4	LC50	96 h	4,630 mg/l	fathead minnow (pimephales promelas)	-	ECHA
calcium chloride	10043-52-4	ErC50	72 h	>4,000 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201	ECHA
calcium chloride	10043-52-4	EbC50	72 h	2,900 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201	ECHA
calcium dihydroxide	1305-62-0	LC50	96 h	50.6 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 201	ECHA
calcium dihydroxide	1305-62-0	LC50	96 h	158 mg/l	invertebrate marine organisms	OECD Guideline 202	ECHA
calcium dihydroxide	1305-62-0	EC50	48 h	49.1 mg/l	daphnia magna	OECD Guideline 202	ECHA
calcium dihydroxide	1305-62-0	ErC50	72 h	184.6 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) Calcium hypochlorite.

Aquatic toxicity (chronic) Constituents.

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
calcium hypo-	7778-54-3	EC50	3 h	77.1 mg/l	A mixed popu-	OECD	ECHA Chem

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
chlorite					lation of active sewage sludge microorganisms	Guideline 209	
calcium hypochlorite	7778-54-3	growth (Eb-Cx) 10%	3 h	46.9 mg/l	A mixed population of active sewage sludge microorganisms	OECD Guideline 209	ECHA Chem
calcium hypochlorite	7778-54-3	growth (Eb-Cx) 20%	3 h	53.1 mg/l	A mixed population of active sewage sludge microorganisms	OECD Guideline 209	ECHA Chem
calcium chloride	10043-52-4	EC50	21 d	900 mg/l	daphnia magna	OECD Guideline 211	ECHA
calcium chloride	10043-52-4	NOEC	25 d	230 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 210	ECHA
calcium chloride	10043-52-4	NOEC	21 d	481 mg/l	daphnia magna	OECD Guideline 211	ECHA
calcium chloride	10043-52-4	LOEC	21 d	240 mg/l	daphnia magna	OECD Guideline 211	ECHA
calcium chloride	10043-52-4	LOEC	25 d	860 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 210	ECHA
calcium chloride	10043-52-4	growth (Eb-Cx) 20%	72 h	1,000 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201	ECHA
calcium dihydroxide	1305-62-0	LC50	14 d	53.1 mg/l	Crustaceae (Crangon sp.)	-	ECHA
calcium dihydroxide	1305-62-0	EC50	3 h	300.4 mg/l	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA
calcium dihydroxide	1305-62-0	NOEC	14 d	32 mg/l	Crustaceae (Crangon sp.)	-	ECHA
calcium dihydroxide	1305-62-0	NOEC	72 h	48 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
calcium di-	1305-62-0	growth (Eb-	3 h	229.2 mg/l	activated	OECD	ECHA

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Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method	Source
hydroxide		Cx) 20%			sludge of a predominantly domestic sewage	Guideline 209	
calcium dihydroxide	1305-62-0	growth rate (ErCx) 10%	72 h	79.22 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA
calcium dihydroxide	1305-62-0	growth rate (ErCx) 20%	72 h	160 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA

12.2 Persistence and degradability

Biodegradation

No data available.

Persistence

No data available.

12.3 Bioaccumulative potential

n-octanol/water (log KOW)

not relevant
(inorganic)

Bioaccumulative potential of components

Name of substance	CAS No	BCF	Log KOW
calcium chloride	10043-52-4	-	~0.05 (20 °C)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

12.6 Other adverse effects

Data are not available.

Harmful effect on fish, plankton and other organisms due to pH shift possible.

Remarks

Keep away from drains, surface and ground water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

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Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number

DOT UN2880

IMDG-Code UN2880

ICAO-TI UN2880

14.2 UN proper shipping name

DOT Calcium hypochlorite, hydrated

IMDG-Code CALCIUM HYPOCHLORITE, HYDRATED

ICAO-TI Calcium hypochlorite, hydrated

14.3 Transport hazard class(es)

DOT 5.1

IMDG-Code 5.1

ICAO-TI 5.1

14.4 Packing group

DOT II

IMDG-Code II

ICAO-TI II

14.5 Environmental hazards

hazardous to the aquatic environment

Environmentally hazardous substance (aquatic environment) calcium hypochlorite

14.6 Special precautions for user

-

14.7 Transport in bulk according to IMO instruments

-

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Particulars in the shipper's declaration UN2880, Calcium hypochlorite, hydrated, (calcium

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chlorate, calcium hypochlorite), 5.1, II, environmentally hazardous

Danger label(s)

5.1, fish and tree



Environmental hazards

yes
(hazardous to the aquatic environment)

Special provisions (SP)

165, IB8, IP2, IP4, IP13, W9

ERG No

140

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant

yes (P)
(hazardous to the aquatic environment)

Danger label(s)

5.1, fish and tree



Special provisions (SP)

314, 322

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

Environmental hazards

yes
(hazardous to the aquatic environment)

Danger label(s)

5.1



Special provisions (SP)

A3, A8, A136

Excepted quantities (EQ)

E2

Limited quantities (LQ)

2,5 kg

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

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Toxic Substance Control Act (TSCA)

Not all ingredients are listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

None of the ingredients are listed

Specific Toxic Chemical Listings (EPCRA Section 313)

None of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	Name acc. to inventory	CAS No	Re- marks	Stat- utory code	Final RQ pounds (Kg)
calcium hypochlorite	calcium hypochlorite	7778-54-3	-	1	10 (4,54)

Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

Clean Air Act

None of the ingredients are listed

Right to Know Hazardous Substance List

Toxic or Hazardous Substance List (MA-TURA)

Name of substance	Name acc. to inventory	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Thres hold	De Minimis Concentra- tion Threshold
calcium hypochlorite	Calcium hypochlorite	7778-54-3	-	-	-	1.0 %

Hazardous Substances List (MN-ERTK)

Name of substance	Name acc. to inventory	CAS No	References	Remarks
calcium carbonate	Dust, Inert or Nuisance (When toxic impurities are not present, for example, quartz less than 1 percent.)	-	A	dust
calcium dihydroxide	Calcium hydroxide	1305-62-0	A	-

Legend

A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH

dust If the substance poses an airborne particulate exposure hazard, the substance is followed by the word "dust."

Calcium Hypochlorite

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Hazardous Substance List (NJ-RTK)

Name of substance	Name acc. to inventory	CAS No	Remarks	Classifications	Listed in	Substance number	DOT number
calcium hypochlorite	calcium hypochlorite (hypochlorous acid, calcium salt)	7778-54-3	-	R1.	3 15 17 20	0323	1748
calcium dihydroxide	calcium hydroxide (hydrated lime)	1305-62-0	-		1 2 4	0322	-
calcium chlorate	calcium chlorate	10137-74-3	-	R1.	3 17	0313	1452

Legend

- 1 Occupational Safety and Health Administration, 29 CFR 1910-Occupational Safety and Health Standards, Subpart Z-Toxic and Hazardous Substances, July 1, 2008.
- 15 "Fire Protection Guide to Hazardous Materials," NFPA 49 (Hazardous Chemicals Data), NFPA 325 (Guide to Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids), and NFPA 704 (Standard System for the Identification of the Hazards of Materials for Emergency Response), National Fire Protection Association (NFPA), 2001.
- 17 "2008 Emergency Response Guidebook," Research and Special Programs Administration, U.S. Department of Transportation, 2008.
- 2 "2009 TLVs® and BEIs®, Threshold Limit Values and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists (ACGIH), 2009.
- 20 List of Hazardous Substances and Reportable Quantities (RQ), Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), U.S. Environmental Protection Agency, 40 CFR 302, Table 302.4, July 1, 2008.
- 3 Office of Hazardous Materials Safety, Research and Special Programs Administration, U.S. Department of Transportation, 49 CFR 172.101-Hazardous Materials Table, October 1, 2008.
- 4 "NIOSH Pocket Guide to Chemical Hazards," National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, No. 2005-149, September 2005.
- R1 Reactive - First Degree

Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
HYPOCHLOROUS ACID, CALCIUM SALT	7778-54-3	E
CALCIUM HYDROXIDE (CA(OH)2)	1305-62-0	-
CHLORIC ACID, CALCIUM SALT	10137-74-3	-

Legend

- E Environmental hazard

Calcium Hypochlorite

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Hazardous Substance List (RI-RTK)

Name of substance	Name acc. to inventory	CAS No	References
calcium hypochlorite	Bleaching powder	7778-54-3	F
calcium hypochlorite	Calcium hypochlorite	7778-54-3	F
calcium hypochlorite	Chlorinated lime	7778-54-3	F
calcium dihydroxide	Calcium hydroxide	1305-62-0	T
calcium chlorate	Calcium chlorate	10137-74-3	F

Legend

F Flammability (NFPA®)

T Toxicity (ACGIH®)

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

None of the ingredients are listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

None of the ingredients are listed

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2025-05-28

Date of last revision: 2025-08-08.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2025	From ACGIH®, 2025 TLVs® and BEIs® Book. Copyright 2025. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DEP CODE	Department of Environmental Protection Code

Calcium Hypochlorite

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EbC50	≡ 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
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
EmS	Emergency Schedule
ErC50	≡ 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
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
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
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
LHS	Lower hazard substance
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
OSHA	Occupational Safety and Health Administration (United States)
Ox. Sol.	Oxidizing solid
PBT	Persistent, Bioaccumulative and Toxic

Calcium Hypochlorite

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Abbr.	Descriptions of used abbreviations
PEL	Permissible exposure limit
ppm	Parts per million
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200 (May 20, 2024 eff. July 19, 2024).

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

Code	Text
H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Responsible for the safety data sheet

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Jasper, GA e-Mail: GHS@crc-us.com
USA Website: www.crc-us.com

Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.