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Reg. No: 2011/117365/07

1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product Name: Calcium hypochlorite
Chemical Name: Calcium hypochlorite
Product form: Granular
CAS No.: 7778-54-3
EINECS No: 231-908-7
Synonym (s): Calcium oxychloride; Chlorinated lime; Hypochlorous acid; Chlortabs

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

Disinfection in swimming pools and drinking water supplies; slime & odor control

1.3 Details of the supplier of the safety data sheet

1.4 Emergency telephone number

2 Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]
- Ox. Sol. 2, H272
- Acute Tox. 4, H302
- Skin Corr. 1B, H314
- Aquatic Acute 1, H400
- EUH031
- Classification (67/548/EEC, 1999/45/EC)
- O; R8
- C: R34

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- Xn; R22
 - R52
 - N; R50
 - Additional information: For full text of R-phrases and Hazard- and EU Hazard-statements: see section 16

2.2 Label elements



- Signal Word: Danger
- Symbols: GHS03, GHS07, GHS09

Hazard phrases

- May intensify fire; oxidizer.
- Harmful if swallowed.
- Causes severe skin burns and eye damage.
- Very toxic to aquatic life.
- Contact with acids liberates toxic gas.
- Warning! Do not use together with other products. May release dangerous gases (chlorine).

Precautionary Phrases

- Store locked up/Keep out of reach of children.
- Wear protective gloves/protective clothing/eye protection/face protection.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- IF exposed or concerned: Get medical advice/attention.
- Avoid release to the environment.

2.3 Other hazards

- Marine pollutant

3 Composition/information on ingredients

3.1 Mixtures

Component	Weight Percent	C.A.S no.
Calcium Hypochlorite	60-80%	7778-54-3
Sodium Chloride	10-20%	7647-14-5
Calcium Chloride	0-5%	10043-52-4
Calcium Hydroxide	0-4%	1305-62-0
Calcium Carbonate	0-5%	471-34-1
Calcium Chlorate	0-5%	10137-74-3
Water(Moisture)	5%Max.	7732-18-5

4 First aid measures

4.1 Description of first aid measures

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- If breathing is difficult, oxygen should be given by a trained person
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash with plenty of soap and water.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Get immediate medical advice/attention.
- IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- Give plenty of water to drink
- Mucosal damage may contraindicate the use of gastric lavage

4.2 Most important symptoms and effects, both acute and delayed

- Can cause damage to the eyes
- Can cause damage to the skin
- Prolonged skin or eye contact may cause chemical burns
- In cases of severe exposure, breathing difficulty may develop

4.3 Indication of immediate medical attention and special treatment needed

- Treat symptomatically

5 Fire-fighting measures

5.1 Extinguishing media

- In case of fire: use water for extinction
- DO NOT USE dry extinguishers containing ammonium compounds such as dry powder.

5.2 Special hazards arising from the substance or mixture

- See Section 10.6

-
- Exposure to decomposition products may be a hazard to health.
 - Oxidizing

5.3 Advice for firefighters

- Wear protective clothing as per section 8
- In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
- Wear full protective clothing including chemical protection suit

5.4 Fire & explosion hazard

- Flash point – Not applicable
- Auto-ignition temperature – Not applicable

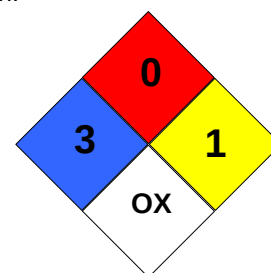
NFPA Classification

Health hazard: 3

Fire Hazard: 0

Reactivity Hazard: 1

Specific hazards: OX



6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Wear protective clothing as per section 8
- Evacuate the area and keep personnel upwind
- Avoid raising dust
- Damp down to avoid dust generation
- Avoid contact with combustible material

6.2 Environmental Precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Remove by mechanical means
- Collect as much as possible in clean container for reuse or disposal
- Do not absorb spillage in sawdust or other combustible material
- Seek expert advice for removal and disposal of all contaminated materials and wastes

6.4 Reference to other sections

- See Section 7 & 8

7 Handling and storage

7.1 Precautions for safe handling

- Avoid raising dust
- Ensure adequate ventilation
- Avoid contact with combustible material
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Do not eat, drink or smoke when using this product.
- Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- Store away from other materials.
- Keep/Store away from clothing/combustible materials.
- Store in a dry place. Store in a closed container.
- Store in a well-ventilated place. Keep cool in ambient temperature
- Keep only in original container.

7.3 Specific end use(s)

- No information available.

8 Exposure controls/personal protection

8.1 Control parameters

- WEL (inhalable dust) 10 mg/m³
- WEL (respirable dust) 4 mg/m³ calcium hypochlorite
- WEL (short term) 0.5 ppm
- WEL (short term) 1.5 mg/m³

8.2 Exposure controls

- Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines
Occupational exposure controls
- In case of inadequate ventilation wear respiratory protection.
- Wear suitable protective clothing, including eye/face protection and gloves (rubber are recommended)
- When handling this substance, e.g. sampling, wear goggles giving complete eye protection



Respirator



Goggles



Gloves



Suit

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Odour: chlorine
- Appearance: Solid, white, tablets, granules
- pH 11 to 12 (1% solution)
- Boiling point - not applicable
- Vapour pressure - not applicable
- Vapour density - not applicable
- Melting point 180 °C with decomposition
- Water solubility 20 g/l
- Specific gravity 1.1 - 1.3 g/cm³
- Not flammable but will support combustion
- Oxidizing
- Partition coefficient: n - Octanol/water - not known
- Evaporation rate - not known
- Viscosity - not applicable

9.2 Other information

- Molecular weight - 142.99

10 Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

- Decomposes above 180 °C
- Heating may cause an explosion.

10.3 Possibility of hazardous reactions

- Contact with acids liberates toxic gas.
- Exothermic reaction on heating

10.4 Conditions to avoid

- Avoid contact with acids and alkalis
- Avoid contact with combustible material
- Avoid contact with foodstuffs
- Avoid contact with reducing agents
- Keep away from heat and sources of ignition
- Avoid contact with moisture

10.5 Incompatible materials

- Incompatible with acids and alkalis
- Incompatible with reducing agents
- Contact with water may form explosive gases
- Contact with acids liberates toxic gas.
- Avoid contact with aluminum, zinc, copper and tin
- Avoid contact with mild or stainless steel
- Avoid contact with moist air

10.6 Hazardous Decomposition Products

- Decomposition products may include considerable amounts of gas
- Decomposition products include chlorine.

11 Toxicological information

11.1 Information on toxicological effects

- LD₅₀ (oral, rat) 790 - 1260 mg/kg
- Irritation to eyes

Inhalation

- May cause dizziness
- Causes coughing
- Can cause damage to the mucous membranes
- In cases of severe exposure, burning sensation may develop
- In cases of severe exposure, delayed pulmonary oedema may develop

Contact with skin

- In cases of severe exposure, burning sensation may develop
- In cases of severe exposure, dermatitis may develop
- Can cause damage to the skin
- Causes blistering of the skin

Contact with eyes

- Causes severe irritation
- Can cause damage to the eyes

Ingestion

- The ingestion of significant quantities may cause damage to digestive system
- The ingestion of significant quantities may cause burning sensation

Carcinogenicity

- No evidence of carcinogenic effects.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Calcium hypochlorite	7778-54-3	Not listed	Not listed	Not listed	Not listed	Not listed

Teratogenicity

- No information available

Mutagenicity

- Mutagenicity (Ames Test): None

12 Ecological information

12.1 Toxicity

- Very toxic to aquatic life.
- LC₅₀ (fish) 0.15 mg/l (96 hr.)

12.2 Persistence and degradability

- No information available

12.3 Bioaccumulation Potential

- No information available

12.4 Mobility in soil

- Marine pollutant
- Large volumes may penetrate soil and contaminate groundwater

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII

12.6 Other Adverse Effects

- No information available

13 Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, state or national legislation
- Do not reuse empty containers

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- Uncontaminated material may be returnable. Contact supplier

Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)

14 Transport information



Oxidizing Agent

Marine Pollutant

14.1 UN Number 3487

14.2 UN Proper Shipping Name
CALCIUM HYPOCHLORITE, HYDRATED

14.3 Transport hazard class (es) 5.1

14.4 Packing group II

14.5 Environmental hazards
- Marine pollutant

14.6 Special precautions for user
- See Section 7

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code
- Not applicable

Other information

Road/Rail (ADR/RID)

Proper Shipping Name: CALCIUMHYPOCHLORITE,HYDRATED

ADR UN No.: 3487

ADR Hazard Class: 5.1

ADR Packing Group: II

Tunnel Code: E

Sea (IMDG)

Proper Shipping Name: CALCIUM HYPOCHLORITE HYDRATED

IMDG UN No.: 3487

IMDG Hazard Class.: 5.1

IMDG Pack Group: II

Air (ICAO/IATA)

Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED

ICAO UN No.: 3487

ICAO Hazard Class.: 5.1

ICAO Packing Group: II

15 Regulatory information

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

- Refer to current ADR Regulations
- Refer to current CPL Regulations
- Refer to current EC Directive 82/501/EEC (the Seveso Directive)
- The List of Wastes (England) Regulations 2005 apply in the UK 15.2 Chemical Safety Assessment

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINC	NLP	PICCS	ENCS	AICS	IECSC	KECL
Calcium hypochlorite	X	X	-	231-908-7	-		X	X	X	X	X

Legend

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazard Categories

Acute Health Hazard Yes

Chronic Health Hazard No

Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Calcium hypochlorite	X	10 lb	-	-

Clean Air Act

Not applicable

OSHA Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Calcium hypochlorite	10 lb	-

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Calcium hypochlorite	X	X	X	-	X

U.S. Department of Homeland Security

This product does not contain any DHS chemicals

Other International Regulations

Mexico – Grade

No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

- C Oxidizing materials
- D1B Toxic materials
- F Dangerously reactive material
- D2B Toxic materials

16 Other information

Text of R and S phrase codes used in this safety data sheet:

- H272: May intensify fire; oxidizer.;
- H302: Harmful if swallowed.;
- H314: Causes severe skin burns and eye damage.;
- H400: Very toxic to aquatic life.;
- R22: Harmful if swallowed;
- R31: Contact with acids liberates toxic gas;
- R34: Causes burns;
- R50: Very toxic to aquatic organisms;
- R8: Contact with combustible material may cause fire.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication are intended to describe product safety requirements. They should not therefore be considered as a warranty of specific properties. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text