

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.01.2018

Revision: 26.01.2018

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

- **1.1 Product identifier**
- **Trade name:**
- **Registration number** Mixture
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC37 Water treatment chemicals
- **Application of the substance / the mixture** Water treatment
- **Uses advised against**
 - Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).
 - Any use involving aerosol formation or vapour or dust release in excess of the assigned workplace exposure limits where workers are exposed without suitable respiratory protective equipment (RPE).
 - Processes involving the use of incompatible substances - refer to section 10.
 - Processes involving extreme heat use advised against.
 - The product is intended exclusively for industrial and professional use.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

- **Further information obtainable from:** Product safety department.
- **1.4 Emergency telephone number:**

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
 - The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS03, GHS05, GHS07, GHS09
- **Signal word** Danger

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Trade name:

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- **Hazard-determining components of labelling:**

Calcium hypochlorite

Calcium dihydroxide

- **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**

P220 Keep away from acids.

P221 Take any precaution to avoid mixing with combustibles.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- **Additional information:**

EUH031 Contact with acids liberates toxic gas.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 7778-54-3 EINECS: 231-908-7	Calcium hypochlorite ⚠ Ox. Sol. 2, H272; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302	50-100%
CAS: 1305-62-0 EINECS: 215-137-3	Calcium dihydroxide ⚠ Eye Dam. 1, H318; ⚠ Skin Irrit. 2, H315; STOT SE 3, H335	≤ 3%
CAS: 10043-52-4 EINECS: 233-140-8	Calcium chloride ⚠ Eye Irrit. 2, H319	≤ 2.5%
CAS: 10137-74-3 EINECS: 233-378-2	Calcium chlorate ⚠ Ox. Sol. 2, H272	≤ 2.5%

- **Additional information:**

For the wording of the listed hazard phrases refer to section 16.

REACH Registration numbers:

- calcium hypochlorite: 01-2119487005-40

- calcium dihydroxide: 01-2119475151-45

- calcium chloride: 01-2119494219-28

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:**

DO NOT DELAY!

Immediately rinse with water.

If skin irritation continues, consult a doctor.

- **After eye contact:**

DO NOT DELAY!

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Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

DO NOT DELAY!

Drink plenty of water and provide fresh air. Call for a doctor immediately.

Do not induce vomiting; call for medical help immediately.

If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Information for doctor:** Treat symptomatically and supportively.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:** Water

· **For safety reasons unsuitable extinguishing agents:**

Extinguishing powder

Foam

· **5.2 Special hazards arising from the substance or mixture**

Oxidizer. The sproduct itself does not burn, but in contact with combustible substances it increases the risk of fire and can fuel any existing fire substantially.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Avoid formation of dust.

Ensure adequate ventilation

· **6.2 Environmental precautions:**

Do not allow to penetrate the ground/soil.

Do not allow product to reach sewage system or any water course in the undiluted form.

· **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

Do not use combustible materials such as paper towels to clean up spills.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Prevent formation of dust.

Ensure good ventilation/exhaustion at the workplace.

Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

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The product must only be handled by authorised, trained and experienced professionals under strictly controlled conditions.

NEVER MIX THIS PRODUCT WITH ORGANIC CHLORINE (TRICHLOR or DICHLOR) WITHIN THE SAME CONTAINER.

DO NOT MIX WITH OTHER PRODUCTS

DO NOT DISSOLVE BEFORE USE

· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Do not store in aluminium or galvanised containers.

· **Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from water.

Do not store together with textiles.

Store away from foodstuffs.

Do not store together with acids.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Keep container tightly sealed.

Protect from heat and direct sunlight.

Store in a bunded area.

Do not store product where the average daily temperature exceeds 35°C. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

1305-62-0 Calcium dihydroxide

WEL	Long-term value: 5 mg/m ³
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· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not breath dust

Do not eat, drink, smoke or sniff while working.

Take note of assigned Workplace Exposure Limits.

Ensure that eyewash stations and safety showers are close to the workstation location.

· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**

Impervious protective clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Tablets
Colour:	White
Odour:	Chlorine-like
Odour threshold:	Not determined.

· **pH-value (10 g/l) at 20 °C:** 10.5 - 11.5

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.

· **Flash point:** Cannot support combustion

· **Flammability (solid, gas):** Not determined.

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not self-igniting.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapour pressure:** Not applicable.

· **Density at 20 °C:** 1.3 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not applicable.

· **Evaporation rate** Not applicable.

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· Solubility in / Miscibility with water at 20 °C:	217 g/l
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· 9.2 Other information	NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with acids releasing chlorine.
Forms explosive compounds with ammonia and amines.
Strong oxidizer.
Other incompatible materials include organics, nitrogen containing compounds, dry chemical fire extinguishers containing mono-ammonium phosphate, combustible or flammable materials.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Strong acids.
Reducing agents.
Combustible materials.
Flammable materials
- **10.6 Hazardous decomposition products:**
Chlorine
Hydrogen chloride (HCl)
Metal oxide
- **Additional information:**
NEVER MIX THIS PRODUCT WITH ORGANIC CHLORINE (TRICHLOR or DICHLOR) WITHIN THE SAME CONTAINER

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.
- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
ROUTES OF EXPOSURE: The component substances can variously be absorbed into the body by inhalation and by ingestion.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.

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- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** The organic portion of the product is biodegradable.
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
 Danger to drinking water if even small quantities leak into the ground.
 Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Recommended Hierarchy of Controls:
 - Minimise waste;
 - Reuse if not contaminated;
 - Recycle, if possible; or
 - Safe disposal (if all else fails).
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 Contact waste processors for recycling information.
 Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **European waste catalogue**
 Waste key numbers in accordance with the European Waste Catalogue (EWC) are origin-referred defined.
 Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.
- **Uncleaned packaging:**
- **Recommendation:**
 Disposal must be made according to official regulations.
 Container remains hazardous when empty. Continue to observe all precautions.
 Do not mix with other waste streams.
 Containers, even those that are "empty," may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
 - **ADR, IMDG, IATA**
- UN1748

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<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA 	1748 CALCIUM HYPOCHLORITE MIXTURE, DRY, ENVIRONMENTALLY HAZARDOUS CALCIUM HYPOCHLORITE MIXTURE, DRY, MARINE POLLUTANT CALCIUM HYPOCHLORITE MIXTURE, DRY
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- **14.3 Transport hazard class(es)**

- **ADR, IMDG**



<ul style="list-style-type: none"> · Class · Label 	5.1 Oxidising substances. 5.1
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- **IATA**



<ul style="list-style-type: none"> · Class · Label 	5.1 Oxidising substances. 5.1
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- **14.4 Packing group**

<ul style="list-style-type: none"> · ADR, IMDG, IATA 	III
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- **14.5 Environmental hazards:**

Product contains environmentally hazardous substances:
Calcium hypochlorite
Symbol (fish and tree)
Symbol (fish and tree)

- **Marine pollutant:**

- **Special marking (ADR):**

- **14.6 Special precautions for user**

- **Danger code (Kemler):**

- **EMS Number:**

- **Segregation groups**

- **Stowage Category**

- **Stowage Code**

Warning: Oxidising substances.
50
F-H,S-Q
Hypochlorites
D
SW1 Protected from sources of heat.
SW11 Cargo transport units shall be shaded from direct sunlight. Packages in cargo transport units shall be stowed so as to allow for adequate air circulation throughout the cargo.
SG35 Stow "separated from" acids.
SG38 Stow "separated from" ammonium compounds.
SG49 Stow "separated from" cyanides
SG53 Stow "separated from" liquid organic substances
SG60 Stow "separated from" peroxides

- **Segregation Code**

- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

- **Transport/Additional information:**

- **ADR**

- **Limited quantities (LQ)**

- **Excepted quantities (EQ)**

5 kg
Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g
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- **Transport category**

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· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 1748 CALCIUM HYPOCHLORITE MIXTURE, DRY, ENVIRONMENTALLY HAZARDOUS, 5.1, III, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
P8
E1
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Sol. 2: Oxidizing solids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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