

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.0 Revision Date 30.10.2012

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name : Calcium hypochlorite

Product Number : 92401
 Brand : Sigma-Aldrich
 Index-No. : 017-012-00-7
 CAS-No. : 7778-54-3

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Chemie GmbH
 Riedstrasse 2
 D-89555 STEINHEIM

Telephone : +49 89-6513-1444
 Fax : +49 7329-97-2319
 E-mail address : eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone # : 0800 181 7059 (CHEMTREC Deutschland)
 +49 (0)696 43508409 (CHEMTREC weltweit)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Oxidizing solids (Category 2)
 Acute toxicity, Oral (Category 4)
 Skin corrosion (Category 1B)
 Acute aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Contact with combustible material may cause fire. Causes burns. Harmful if swallowed. Contact with acids liberates toxic gas. Very toxic to aquatic organisms.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word : Danger

Hazard statement(s)

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

Precautionary statement(s)

P220 : Keep/Store away from clothing/ combustible materials.

P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 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 or doctor/ physician.

Supplemental Hazard information (EU)
 EUH031 Contact with acids liberates toxic gas.

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrase(s)

R 8 Contact with combustible material may cause fire.
 R22 Harmful if swallowed.
 R31 Contact with acids liberates toxic gas.
 R34 Causes burns.
 R50 Very toxic to aquatic organisms.

S-phrase(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : CaCl_2O_2
 Molecular Weight : 142,98 g/mol

Component	Concentration
Calcium hypochlorite	
CAS-No.	7778-54-3
EC-No.	231-908-7
Index-No.	017-012-00-7

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

- 4.2 **Most important symptoms and effects, both acute and delayed**
- 4.3 **Indication of any immediate medical attention and special treatment needed**
no data available
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5. **FIREFIGHTING MEASURES**

- 5.1 **Extinguishing media**
Suitable extinguishing media
Dry powder
- 5.2 **Special hazards arising from the substance or mixture**
Hydrogen chloride gas, Calcium oxide
- 5.3 **Advice for firefighters**
Wear self contained breathing apparatus for fire fighting if necessary.
- 5.4 **Further information**
no data available
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6. **ACCIDENTAL RELEASE MEASURES**

- 6.1 **Personal precautions, protective equipment and emergency procedures**
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
- 6.2 **Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 6.3 **Methods and materials for containment and cleaning up**
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.
- 6.4 **Reference to other sections**
For disposal see section 13.
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7. **HANDLING AND STORAGE**

- 7.1 **Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.
- 7.2 **Conditions for safe storage, including any incompatibilities**
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Never allow product to get in contact with water during storage. Do not store near acids.
- 7.3 **Specific end uses**
no data available
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8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

- 8.1 **Control parameters**
Components with workplace control parameters
- 8.2 **Exposure controls**
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Personal protective equipment**
Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 480 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 30 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|---|------------------------------------|
| a) Appearance | Form: powder
Colour: beige |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | Melting point/range: 100 °C - lit. |
| f) Initial boiling point and boiling range | no data available |
| g) Flash point | not applicable |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure | no data available |
| l) Vapour density | no data available |

- | | |
|---|--|
| m) Relative density | 2,35 g/mL at 25 °C |
| n) Water solubility | no data available |
| o) Partition coefficient: n-octanol/water | no data available |
| p) Autoignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | The substance or mixture is classified as oxidizing with the category 2. |

9.2 Other safety information

no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible with acids., Strong reducing agents

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 850 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Genotoxicity in vitro - Hamster - fibroblast

Cytogenetic analysis

Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Calcium hypochlorite)

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects**Inhalation**

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

Harmful if swallowed. Causes burns.

Skin

May be harmful if absorbed through skin. Causes skin burns.

Eyes

Causes eye burns.

Additional Information

RTECS: NH3485000

12. ECOLOGICAL INFORMATION**12.1 Toxicity**Toxicity to fish LC50 - *Lepomis macrochirus* - 0,057 mg/l - 96,0 hToxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - 0,067 mg/l - 48 h**12.2 Persistence and degradability**

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**14.1 UN number**

ADR/RID: 1748

IMDG: 1748

IATA: 1748

14.2 UN proper shipping name

ADR/RID: CALCIUM HYPOCHLORITE, DRY

IMDG: CALCIUM HYPOCHLORITE, DRY

IATA: Calcium hypochlorite, dry

14.3 Transport hazard class(es)

ADR/RID: 5.1

IMDG: 5.1

IATA: 5.1

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

14.6 Special precautions for user

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

no data available

16. OTHER INFORMATION**Further information**

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