

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 28.11.2011

Version number 1

Revision: 14.03.2011

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

### 1.1. Product identifier

· Trade name: Calcium hypochlorite

· Article number: 15591

· CAS Number:  
7778-54-3

· EC number:  
231-908-7

· Index number:  
017-012-00-7

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

· Application of the substance / the preparation Laboratory chemicals

### 1.3. Details of the supplier of the safety data sheet

#### · Manufacturer/Supplier:

SERVA Electrophoresis GmbH  
Carl-Benz-Str. 7  
D-69115 Heidelberg  
Tel.: +49 6221 13840-0  
FAX: +49 6221 13840-10  
msds.info@serva.de

· Information department: Product Safety department Tel.: +49 6221 13840-35

· 1.4. Emergency telephone number: +49 6131 19240 (university hospital Mainz)

**SERVA**  
Electrophoresis

## 2 Hazards identification

### 2.1. Classification of the substance or mixture

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



GHS03

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



GHS05

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



GHS09

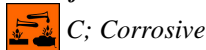
Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

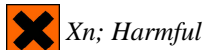
Acute Tox. 4      H302 Harmful if swallowed.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C; Corrosive

R34: Causes burns.



Xn; Harmful

R22: Harmful if swallowed.

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**O; Oxidising****R8:** Contact with combustible material may cause fire.**N; Dangerous for the environment****R50:** Very toxic to aquatic organisms.**R31:** Contact with acids liberates toxic gas.**Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

**2.2. Label elements****Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

**Hazard pictograms** GHS03, GHS05, GHS07, GHS09**Signal word** Danger**Hazard statements****H272** May intensify fire; oxidiser.**H302+EUH031** Harmful if swallowed. Contact with acids liberates toxic gas.**H314** Causes severe skin burns and eye damage.**H400** Very toxic to aquatic life.**Precautionary statements****P210** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**P273** Avoid release to the environment.**P280** Wear protective gloves/protective clothing/eye protection/face protection.**P303+P361+P353** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**P304+P340** IF INHALED: Remove victim to fresh air and keep at rest in a position 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.**P405** Store locked up.**2.3. Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**3.1. Chemical characterization: Substances****CAS No. Description:**

7778-54-3 calcium hypochlorite

**Identification number(s):****EC number:** 231-908-7**Index number:** 017-012-00-7**Description:****Empirical formula:** Ca O<sub>2</sub> Cl<sub>2</sub>**MW:** 143,0

### 4 First aid measures

**4.1. Description of first aid measures****General information**

Remove contaminated clothing.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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- **After inhalation** Supply fresh air and to be sure call for a doctor.
- **After skin contact** Clean with water and soap. If possible, also wash with polyethylene glycol 400.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.
- **Information for doctor**
- **4.2. Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3. Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Firefighting measures

- **5.1. Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2. Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Hydrogen chloride (HCl)  
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2. Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3. Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4. Reference to other sections**  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Substance/product is oxidizing when dry.
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store only in unopened original receptacles.
- **Information about storage in one common storage facility:**  
Store away from flammable substances.  
Do not store together with acids.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **7.3. Specific end use(s)** No further relevant information available.

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## 8 Exposure controls/personal protection

- *Additional information about design of technical systems: No further data; see item 7.*
- **8.1. Control parameters**
- *Components with limit values that require monitoring at the workplace: Not required.*
- *Additional information: The lists that were valid during the creation were used as basis.*
- **8.2. Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Use skin protection cream for skin protection.  
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.
- **Breathing equipment:**  
Short term filter device:  
Filter P2.
- **Protection of hands:**  
Rubber gloves  
Neoprene gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
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.
- **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.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**  
Natural rubber, NR  
Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

## 9 Physical and chemical properties

- **9.1. Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Crystalline
Colour:	White
Odour:	Like chlorine
- **Change in condition**

Melting point/Melting range:	100°C
Boiling point/Boiling range:	undetermined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Contact with combustible material may cause fire.

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· **Ignition temperature:****Decomposition temperature:** > 175°C· **Danger of explosion:** in contact with NH<sub>4</sub> Cl· **Density at 20°C:** 2.35 g/cm<sup>3</sup>· **Solubility in / Miscibility with****Water:** Hydrolized· **9.2. Other information** There are no more data available.**10 Stability and reactivity**· **10.1. Reactivity**· **10.2. Chemical stability**· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

To avoid thermal decomposition do not overheat.

· **10.3. Possibility of hazardous reactions** Reacts with acids· **10.4. Conditions to avoid** No further relevant information available.· **10.5. Incompatible materials:** No further relevant information available.· **10.6. Hazardous decomposition products:**

Chlorine

Oxygen

**11 Toxicological information**· **11.1. Information on toxicological effects**· **Acute toxicity:**· **LD/LC50 values that are relevant for classification:**

Oral LD50 850 mg/kg (rat)

· **Primary irritant effect:**· **on the skin:** Caustic effect on skin and mucous membranes.· **on the eye:** Strong caustic effect.· **Sensitization:** No sensitizing effects known.· **Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**12 Ecological information**· **12.1. Toxicity**· **Acquatic toxicity:** No further relevant information available.· **12.2. Persistence and degradability** No further relevant information available.· **Behaviour in environmental systems:**· **12.3. Bioaccumulative potential** No further relevant information available.· **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 unneutralized.

Danger to drinking water if even small quantities leak into the ground.

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Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

· **12.5. Results of PBT and vPvB assessment**

· **PBT:** PBT - assessment not available.

· **vPvB:** vPvB - assessment not available.

· **12.6. Other adverse effects** No further relevant information available.

**13 Disposal considerations**

· **13.1. Waste treatment methods**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

· **14.1. UN-Number**

· **ADR, IMDG, IATA**

UN1748

· **14.2. UN proper shipping name**

· **ADR**

1748 CALCIUM HYPOCHLORITE, DRY

· **IMDG**

CALCIUM HYPOCHLORITE, DRY

· **IATA**

Calcium hypochlorite, dry

· **14.3. Transport hazard class(es)**

· **ADR**



· **Class**

5.1 Oxidising substances.

· **Label**

5.1

· **IMDG, IATA**



· **Class**

5.1 Oxidising substances.

· **Label**

5.1

· **14.4. Packing group**

· **ADR, IMDG, IATA**

II

· **14.5. Environmental hazards:**

Environmentally hazardous substance, solid; Marine Pollutant

· **Marine pollutant:**

No

· **Special marking (ADR):**

Symbol (fish and tree)

· **14.6. Special precautions for user**

Warning: Oxidising substances.

· **Danger code (Kemler):**

50

· **EMS Number:**

F-H,S-Q

· **Segregation groups**

Hypochlorites

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- |  |  |
|--|--|
| · <b>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                            |
| · <b>Transport/Additional information:</b>   |  |
| · <b>ADR</b>   |  |
| · <b>Tunnel restriction code</b>   | E  |
| · <b>UN "Model Regulation":</b>  | UN1748, CALCIUM HYPOCHLORITE, DRY, 5.1, II |

### \* 15 Regulatory information

- **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2. Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### \* 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.*

- **Department issuing MSDS:** Product safety department
- **Contact:** +49 6221 13840-35

- **Abbreviations and acronyms:**

*PBT: persistent, bioaccumulative, toxic substance (REACH)*

*vPvB: very persistent, very bioaccumulative substance (REACH)*

*REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals*

*CLP: Regulation on classification, labelling and packaging of substances and mixtures*

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*ICAO: International Civil Aviation Organization*

*GHS: Globally Harmonized System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

- **\* Data compared to the previous version altered.**

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