

**SAFETY DATA SHEET**

Creation Date 28-May-2010

Revision Date 24-Dec-2021

Revision Number 5

**1. Identification**

**Product Name** Calcium hypochlorite

**Cat No. :** C100-250; C100-500

**CAS No** 7778-54-3  
**Synonyms** losantin; Hypochlorous acid; Calcium oxychloride

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet****Company**

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number** CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

**2. Hazard(s) identification****Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                                  |              |
|--------------------------------------------------|--------------|
| Oxidizing solids                                 | Category 2   |
| Corrosive to metals                              | Category 1   |
| Acute oral toxicity                              | Category 4   |
| Skin Corrosion/Irritation                        | Category 1 B |
| Serious Eye Damage/Eye Irritation                | Category 1   |
| Specific target organ toxicity (single exposure) | Category 3   |
| Target Organs - Respiratory system.              |              |

**Label Elements**

**Signal Word**  
Danger

**Hazard Statements**  
May intensify fire; oxidizer  
May be corrosive to metals

Harmful if swallowed  
Causes severe skin burns and eye damage  
May cause respiratory irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Do not breathe dust/fume/gas/mist/vapors/spray  
Wear protective gloves/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep/Store away from clothing/ other combustible materials  
Take any precaution to avoid mixing with combustibles  
Keep only in original container

**Response**

Immediately call a POISON CENTER or doctor/physician

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

**Eyes**

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

**Ingestion**

Rinse mouth  
Do NOT induce vomiting

**Fire**

In case of fire: Use water spray or fog for extinction

**Spills**

Absorb spillage to prevent material damage

**Storage**

Store locked up  
Store in a well-ventilated place. Keep container tightly closed  
Store in corrosive resistant polypropylene container with a resistant inliner  
Store in a dry place

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Very toxic to aquatic life  
Contact with acids liberates toxic gas

### 3. Composition/Information on Ingredients

| Component            | CAS No    | Weight % |
|----------------------|-----------|----------|
| Calcium hypochlorite | 7778-54-3 | <=100    |

### 4. First-aid measures

|                                            |                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.                                                                                                                                                                                              |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.                                                                                                                                                                                                                    |
| <b>Inhalation</b>                          | Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration. |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Call a physician or poison control center immediately.                                                                                                                                                                                                                                                 |
| <b>Most important symptoms and effects</b> | Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation                                |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                                                                                                                                                                                                                          |

## 5. Fire-fighting measures

|                                         |                                                                                             |
|-----------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | Not combustible. Use: Water spray or fog. Water mist may be used to cool closed containers. |
| <b>Unsuitable Extinguishing Media</b>   | Carbon dioxide (CO2), Dry chemical                                                          |
| <b>Flash Point</b>                      | Not applicable                                                                              |
| <b>Method -</b>                         | No information available                                                                    |
| <b>Autoignition Temperature</b>         | No information available                                                                    |
| <b>Explosion Limits</b>                 |                                                                                             |
| <b>Upper</b>                            | No data available                                                                           |
| <b>Lower</b>                            | No data available                                                                           |
| <b>Oxidizing Properties</b>             | Oxidizer                                                                                    |
| <b>Sensitivity to Mechanical Impact</b> | No information available                                                                    |
| <b>Sensitivity to Static Discharge</b>  | No information available                                                                    |

### Specific Hazards Arising from the Chemical

Oxidizer: Contact with combustible/organic material may cause fire. Decomposes violently at elevated temperatures. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Corrosive material. Do not allow run-off from fire-fighting to enter drains or water courses. May ignite combustibles (wood paper, oil, clothing, etc.).

### Hazardous Combustion Products

Chlorine. Hydrogen chloride gas. Oxygen.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA

**Health**  
3

**Flammability**  
0

**Instability**  
1

**Physical hazards**  
OX

## 6. Accidental release measures

|                                  |                                                                                                                                                                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>      | Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. |
| <b>Environmental Precautions</b> | Do not flush into surface water or sanitary sewer system. Do not allow material to                                                                                                                                               |

contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**Methods for Containment and Clean Up** Keep combustibles (wood, paper, oil, etc) away from spilled material. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material.

## 7. Handling and storage

**Handling** Use only under a chemical fume hood. Wear personal protective equipment/face protection. Keep away from clothing and other combustible materials. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing.

**Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Protect from direct sunlight. Keep away from heat, sparks and flame. Keep at temperatures below 50°C. Keep refrigerated. Corrosives area. Do not store near combustible materials. Incompatible Materials. Organic materials. Acids. Amines. Ammonia. Alcohols. Reducing Agent. Metals. Strong reducing agents. Combustible material.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|                                  |                          |
|----------------------------------|--------------------------|
| Physical State                   | Solid                    |
| Appearance                       | Off-white                |
| Odor                             | Slight chlorine          |
| Odor Threshold                   | No information available |
| pH                               | 11.4                     |
| Melting Point/Range              | 100 °C / 212 °F          |
| Boiling Point/Range              | No information available |
| Flash Point                      | Not applicable           |
| Evaporation Rate                 | Not applicable           |
| Flammability (solid,gas)         | No information available |
| Flammability or explosive limits |                          |
| Upper                            | No data available        |
| Lower                            | No data available        |
| Vapor Pressure                   | No information available |

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Vapor Density                          | Not applicable                           |
| Specific Gravity                       | 2.350                                    |
| Solubility                             | Soluble Decomposes in contact with water |
| Partition coefficient; n-octanol/water | No data available                        |
| Autoignition Temperature               | No information available                 |
| Decomposition Temperature              | No information available                 |
| Viscosity                              | Not applicable                           |
| Molecular Formula                      | Ca Cl <sub>2</sub> O <sub>2</sub>        |
| Molecular Weight                       | 142.98                                   |

## 10. Stability and reactivity

|                                  |                                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Reactive Hazard                  | Yes                                                                                                                       |
| Stability                        | Oxidizer: Contact with combustible/organic material may cause fire.                                                       |
| Conditions to Avoid              | Combustible material. Incompatible products. Exposure to moist air or water. Temperatures above 50°C. Excess heat.        |
| Incompatible Materials           | Organic materials, Acids, Amines, Ammonia, Alcohols, Reducing Agent, Metals, Strong reducing agents, Combustible material |
| Hazardous Decomposition Products | Chlorine, Hydrogen chloride gas, Oxygen                                                                                   |
| Hazardous Polymerization         | Hazardous polymerization does not occur.                                                                                  |
| Hazardous Reactions              | Contact with acids liberates toxic gas. Thermal decomposition.                                                            |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component            | LD50 Oral                | LD50 Dermal                  | LC50 Inhalation |
|----------------------|--------------------------|------------------------------|-----------------|
| Calcium hypochlorite | LD50 = 850 mg/kg ( Rat ) | LD50 > 2000 mg/kg ( Rabbit ) | Not listed      |

Toxicologically Synergistic Products No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                 |                                                                                          |
|-----------------|------------------------------------------------------------------------------------------|
| Irritation      | Causes burns by all exposure routes                                                      |
| Sensitization   | No information available                                                                 |
| Carcinogenicity | 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 |

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component            | Freshwater Algae | Freshwater Fish                                                                                                                                                                                                                                                                                                                                                                                                                                | Microtox   | Water Flea         |
|----------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|
| Calcium hypochlorite | Not listed       | LC50: = 0.4 mg/L, 96h flow-through (Lepomis macrochirus)<br>LC50: 0.049 - 0.16 mg/L, 96h static (Lepomis macrochirus)<br>LC50: 0.055 - 0.1 mg/L, 96h semi-static (Oncorhynchus mykiss)<br>LC50: 0.185 - 0.26 mg/L, 96h semi-static (Cyprinus carpio)<br>LC50: 0.561 - 1.41 mg/L, 96h static (Pimephales promelas)<br>LC50: 0.054 - 0.06 mg/L, 96h semi-static (Lepomis macrochirus)<br>LC50: 0.13 - 0.2 mg/L, 96h static (Oncorhynchus mykiss) | Not listed | 0.11 mg/l EC50 48h |

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN3485  
 Proper Shipping Name Calcium hypochlorite, dry, corrosive  
 Hazard Class 5.1  
 Subsidiary Hazard Class 8  
 Packing Group II

### TDG

UN-No UN3485  
 Proper Shipping Name Calcium hypochlorite, dry, corrosive  
 Hazard Class 5.1  
 Subsidiary Hazard Class 8  
 Packing Group II

### IATA

**UN-No** UN3485  
**Proper Shipping Name** CALCIUM HYPOCHLORITE, DRY, CORROSIVE  
**Hazard Class** 5.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

**IMDG/IMO**

**UN-No** UN3485  
**Proper Shipping Name** CALCIUM HYPOCHLORITE, DRY, CORROSIVE  
**Hazard Class** 5.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

## 15. Regulatory information

**United States of America Inventory**

| Component            | CAS No    | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|----------------------|-----------|------|-----------------------------------------------|-----------------------------|
| Calcium hypochlorite | 7778-54-3 | X    | ACTIVE                                        | -                           |

**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component            | CAS No    | DSL | NDL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|----------------------|-----------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Calcium hypochlorite | 7778-54-3 | X   | -   | 231-908-7 | X     | X    | X    | X    | X     | KE-04564 |

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations**

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

**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 Transportation**

Reportable Quantity (RQ): Y  
 DOT Marine Pollutant Y  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

| Component            | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|----------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Calcium hypochlorite | -                                                                   | Use restricted. See item 75. (see link for restriction details)               | -                                                                                                     |

<https://echa.europa.eu/substances-restricted-under-reach>

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

| Component            | CAS No    | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|----------------------|-----------|----------|------------------------------|---------------------------|--------------------------------------------|
| Calcium hypochlorite | 7778-54-3 | Listed   | Not applicable               | Not applicable            | Not applicable                             |

| Component            | CAS No    | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|----------------------|-----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| Calcium hypochlorite | 7778-54-3 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

## 16. Other information

**Prepared By** Regulatory Affairs  
 Thermo Fisher Scientific  
 Email: EMSDS.RA@thermofisher.com

**Creation Date** 28-May-2010

**Revision Date** 24-Dec-2021

**Print Date** 24-Dec-2021

**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

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. 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

**End of SDS**