SAFETY DATA SHEET

Creation Date 28-May-2010 **Revision Date** 25-December-2021 **Revision Number** 5

1. Identification

Product Name **Calcium hypochlorite**

Cat No. : **AC300340000; AC300340010; AC300340050; AC300341000**

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

Importer/Distributor
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

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

Emergency Telephone Number For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

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.	
Health Hazards Not Otherwise Classified	Category 1
Contact with acids liberates toxic gas	

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
Contact with acids liberates toxic gas

Precautionary Statements
Prevention
Take any precaution to avoid mixing with acids
Do not breathe dust/fumes/gas/mist/vapours/spray
Wear respiratory protection
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep/Store away from clothing/combustible materials
Take any precaution to avoid mixing with combustibles
Keep only in original container
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER/doctor
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Rinse mouth
Do NOT induce vomiting
Wash contaminated clothing before reuse
Absorb spillage to prevent material damage
In case of fire: Use water spray or fog to extinguish
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
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

Other Hazards
Very toxic to aquatic organisms

3. Composition/Information on Ingredients

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

4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation 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.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms/effects 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

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Not combustible. Use:. Water spray or fog. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media Carbon dioxide (CO2), Dry chemical

Flash Point Not applicable
Method - No information available

Autoignition Temperature No information available
Explosion Limits
Upper No data available
Lower No data available
Oxidizing Properties Oxidizer

Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge 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	Flammability	Instability	Physical hazards
3	0	1	OX

6. Accidental release measures

Personal Precautions 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.

Environmental Precautions 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 limitsestablished 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.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	Glove comments
Natural rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	Splash protection only

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. 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.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Recommended Filter type: Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls
Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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 Cl2 O2
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) LC50: 0.049 - 0.16 mg/L, 96h static (Lepomis macrochirus) LC50: 0.055 - 0.1 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 0.185 - 0.26 mg/L, 96h semi-static (Cyprinus carpio) LC50: 0.561 - 1.41 mg/L, 96h static (Pimephales promelas) LC50: 0.054 - 0.06 mg/L, 96h semi-static (Lepomis macrochirus) 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

International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Calcium hypochlorite	7778-54-3	X	-	X	ACTIVE	231-908-7	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Calcium hypochlorite	7778-54-3	X	KE-04564	X	X	X	X	X	X

Legend:
X - Listed '-' - Not Listed
KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Other International Regulations

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

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Revision Summary This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

Disclaimer
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End of SDS