SAFETY DATA SHEET



Revision date: 18-Mar-2025

Revision Number 10

Section 1: Identification

Product identifier

CALCIUM HYPOCHLORITE - HYDRATED Product Name

000031064501 Product Code(s)

Other means of identification

UN number or ID number 3487

Synonyms Dry chlorine; Dry chlorine 70% granular; Calcium hypochlorite 70% granular.

Recommended use of the chemical and restrictions on use

Recommended use Swimming pool sanitiser.

No information available. Uses advised against

Details of manufacturer or importer

Supplier

IXOM Operations Pty Ltd ABN: 51 600 546 512 Level 8. 1 Nicholson Street Melbourne 3000

Australia

Telephone Number: +61 3 9906 3000

Emergency telephone number

Emergency telephone number 1 800 033 111 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

Section 2: Hazard identification

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS). Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail: DANGEROUS GOODS.

GHS Classification

Oxidizing solids	Category 2
Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Acute aquatic toxicity	Category 1

Label elements

Flame over circle Corrosion

Exclamation mark Environment

5.1

Signal word DANGER

Hazard statements

H272 - May intensify fire; oxidizer

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

Precautionary Statements - Prevention

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.

Do not breathe dusts or mists.

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/clothing and eye/face protection.

Use personal protective equipment as required.

Avoid release to the environment.

Precautionary Statements - Response

Get medical advice/attention if you feel unwell.

Specific treatment (see First aid on this SDS).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

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

Immediately call a POISON CENTER or doctor/physician.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

Rinse mouth.

Do NOT induce vomiting.

In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet to extinguish...

Collect spillage.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

Other hazards which do not result in classification

Contact with acids liberates toxic gas.

Contact with water liberates toxic gas.

Section 3: Composition and information on ingredients

Chemical name	CAS No.	Weight-%
Calcium hypochlorite	7778-54-3	>60%
Calcium hydroxide	1305-62-0	1-5%
Water	7732-18-5	7-16%

Section 4: First aid measures

Description of first aid measures

General advice For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New

Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance.

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

breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air and keep at rest

in a position comfortable for breathing.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

Consult a physician.

Skin contact Wash off immediately with soap and plenty of water. IF ON SKIN (or hair): Remove/Take off

immediately all contaminated clothing. Rinse skin with water/shower. Immediate medical

attention is required.

Ingestion Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an

unconscious person. Get medical attention if symptoms occur.

Self-protection of the first aider 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.

Most important symptoms and effects, both acute and delayed

Symptoms Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness).

Burning.

Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. Can cause corneal burns. Delayed effects from exposure to chlorine

(decomposition product) can include shortness of breath, severe headache, pulmonary

oedema and pneumonia.

Section 5: Firefighting measures

Suitable Extinguishing Media

Suitable extinguishing media Water.

Unsuitable extinguishing media Dry agent (carbon dioxide, dry chemical powder).

Specific hazards arising from the chemical

Specific hazards arising from the

chemical

Not combustible, however will support the combustion of other materials. Calcium hypochlorite is a powerful oxidising agent and decomposes violently upon heating liberating oxygen, and toxic chlorine gas. In case of fire, area must be evacuated and specialist fire fighters called. Only large quantities of water should be used as an extinguishing agent. If excess water is not available DO NOT attempt to extinguish the fire; use available water to prevent the spread of fire to adjacent property. Attending fire fighters should keep upwind if

possible and wear full protective equipment including rubber boots and self-contained breathing apparatus. A fire in the vicinity of calcium hypochlorite should be extinguished in the most practical manner but avoid contaminating this material with the fire-fighting agent, including water. Decomposes on contact with water evolving toxic chlorine gas. Once fire is extinguished, wash area thoroughly with excess water. Ensure that drains are not blocked with solid material. Maintenance of excess water during cleaning up operation is essential. Combustible material involved in the incident should be removed to a safe open area for controlled burning or for further drenching with water prior to collection for disposal. Environmentally hazardous.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

Hazchem code 1W

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Do not breathe dust. Ensure adequate ventilation.

Evacuate personnel to safe areas. Do not touch or walk through spilled material. Use

personal protective equipment as required. Wash thoroughly after handling.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Wear protective equipment to prevent skin and eye contact and breathing in vapours/dust.

Air-supplied masks are recommended to avoid inhalation of toxic material. DO NOT return spilled material to original container for re-use. DO NOT add small amounts of water to calcium hypochlorite. Sweep up, avoiding generation of dust, then immediately spread as a thin layer in uncontaminated, dry, open area to reduce the possibility of local hot spots forming. Where a spill has occurred in a confined space or an inadequately ventilated enclosure and the material is damp and evolving chlorine, the rate of chlorine evolution can

be reduced by covering the thinly spread solid with soda ash.

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Avoid generation of dust. Do not breathe dust. Do

not eat, drink or smoke when using this product. Use personal protection equipment. Wash

thoroughly after handling. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct

sunlight. Store away from foodstuffs. Store locked up. Keep dry - reacts with water, may

lead to drum rupture. Keep container closed when not in use.

Incompatible materials Calcium hypochlorite (dry or hydrated) and its mixtures are incompatible with

dichloroisocyanuric acid, ammonium nitrate, trichloroisocyanuric acid, or any chloroisocyanurate, acids, aluminium, iron, lead, magnesium, tin, zinc. Incompatible with organic materials, combustible materials, reducing agents, ammonia, nitrogen compounds, acidic materials, cyanides, hydrogen peroxide, chlorinated isocyanuric acid (organic bleaching powder).

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Chemical name	Australia	New Zealand	ACGIH TLV
Calcium hydroxide	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³
1305-62-0			

Chemical name	European Union	United Kingdom	Germany DFG
Calcium hydroxide	-	TWA: 1 mg/m ³	TWA: 1 mg/m ³
1305-62-0		TWA: 5 mg/m ³	Peak: 2 mg/m ³
		STEL: 4 mg/m ³	_
		STEL: 15 mg/m ³	

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls

Engineering controls

Ensure that eyewash stations and safety showers are close to the workstation location. Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



Eye/face protection Tight sealing safety goggles.

Skin and body protection Overalls. Wear suitable protective clothing. Chemical resistant apron. Boots.

Hand protection Elbow-length impervious gloves.

Respiratory protection If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator

meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

No information available. **Environmental exposure controls**

Thermal hazards No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid **Appearance** Granular Color White - Whitish Odor Chlorine

Odor threshold No information available

Remarks • Method Property Values

No data available None known Ha pH (as aqueous solution) >7 None known Melting point / freezing point No data available None known No data available Boiling point / boiling range None known Flash point Not applicable None known No data available **Evaporation rate** None known No data available Flammability (solid, gas) None known Flammability Limit in Air None known

Not applicable

Upper flammability or explosive

limits

Lower flammability or explosive

Not applicable limits Vapor pressure No data available

None known Vapor density No data available None known Relative density 2.35 @20°C None known Water solubility **21.4**% @ 25℃ None known Solubility(ies) No data available None known **Partition coefficient** No data available None known Not applicable Autoignition temperature None known **Decomposition temperature** 177℃ None known Kinematic viscosity No data available None known Dynamic viscosity No data available None known

Other information

Section 10: Stability and reactivity

Reactivity

Reactivity Oxidizer. Contact with acids liberates toxic gas. Reacts violently with flammable substances,

reducing agents. Reacts with water liberating toxic chlorine gas.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None. Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Decomposition may occur on contact with heat, reducing agents, combustible materials.

Explosive and toxic nitrogen trichloride is formed by contact with chlorinated isocyanuric

acid. Corrosive to metals in the presence of moisture.

Conditions to avoid

Conditions to avoid Heat. Moisture. Direct sunlight.

Incompatible materials

Incompatible materials Calcium hypochlorite (dry or hydrated) and its mixtures are incompatible with

dichloroisocyanuric acid, ammonium nitrate, trichloroisocyanuric acid, or any

chloroisocyanurate, acids, aluminium, iron, lead, magnesium, tin, zinc. Incompatible with organic materials, combustible materials, reducing agents, ammonia, nitrogen compounds, acidic materials, cyanides, hydrogen peroxide, chlorinated isocyanuric acid (organic

bleaching powder).

Hazardous decomposition products

Hazardous decomposition products Chlorine.

Section 11: Toxicological information

Information on likely routes of exposure

Product Information No adverse health effects expected if the chemical is handled in accordance with this Safety

Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is

mishandled and overexposure occurs are:

Inhalation May cause irritation. Chlorine, evolved from decomposition when wet, is a severe

respiratory irritant, corrosive, and highly toxic. Delayed effects can include shortness of

breath, headache, pulmonary oedema, and pneumonia.

Eye contact Causes serious eye damage.

Skin contact Causes severe burns.

Ingestion Can burn mouth, throat, and stomach.

Symptoms Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness).

Burning.

Acute toxicity .

Numerical measures of toxicity - Product Information

On basis of test data

Oral LD50 790-1260 mg/kg (rat)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Calcium hypochlorite	= 850 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
Calcium hydroxide	> 2000 mg/kg (Rat)	> 2500 mg/kg (Rat)	> 6.04 mg/L (Rat) 4 h
Water	> 90 mL/kg (Rat)	-	-

See section 16 for terms and abbreviations

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

Skin corrosion/irritation Causes severe burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Hypochlorite salts have been classified by the International Agency for Research on Cancer

(IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity

to humans.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity Keep out of waterways. Very toxic to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Calcium hypochlorite	-	LC50: 0.049 - 0.16mg/L	=	-
		(96h, Lepomis		
		macrochirus)		
		LC50: =0.4mg/L (96h,		
		Lepomis macrochirus)		
		LC50: 0.054 - 0.06mg/L		
		(96h, Lepomis		
		macrochirus)		
		LC50: 0.185 - 0.26mg/L		
		(96h, Cyprinus carpio)		

	LC50: 0.055 - 0.1mg/L (96h, Oncorhynchus mykiss)			
		LC50: 0.13 - 0.2mg/L (96h, Oncorhynchus		
	mykiss) LC50: 0.561 - 1.41mg/L			
		(96h, Pimephales promelas)		
Calcium hydroxide	-	LC50: 50.6 mg/kg (96h, Rainbow trout)	-	EC50: 49.1 mg/kg (48h, Daphnia magna)

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability

Persistence and degradability Biodegradation is not an applicable endpoint since the product is an inorganic chemical.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Mobility

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

Section 13: Disposal considerations

Waste treatment methods

Waste from residues/unused

products

Refer to Waste Management Authority. Dispose of material through a licensed waste

contractor.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or

disposal.

See section 8 for more information

Section 14: Transport information

ADG Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code

(ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

UN number or ID number

Proper shipping name

Proper shipping name CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE Transport hazard class(es) 5.1

Transport hazard class(es)5.1Subsidiary hazard class8Packing groupIIHazchem code1W

<u>IATA</u>
Classified as Dangerous Goods by the criteria of the International Air Transport Association

(IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN number 3487

UN proper shipping name CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE

Transport hazard class(es) 5.
Subsidiary hazard class 8
Packing group II

IMDG Classified as Dangerous Goods by the criteria of the International Maritime Dangerous

Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN number 3487

UN proper shipping name CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE

Transport hazard class(es) 5.1
Subsidiary hazard class 8
Packing group II
IMDG EMS Fire F-H
IMDG EMS Spill S-Q
Marine pollutant P

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

Section 15: Regulatory information

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

National regulations

Australia

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS). Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 6

Australian Industrial Chemicals Introduction Scheme (AICIS)

Contact supplier for inventory compliance status

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Calcium hypochlorite - 7778-54-3	Present	-
Calcium hydroxide - 1305-62-0	Present	-
Water - 7732-18-5	Present	-

Illicit Drug Precursors/Reagents

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

International Inventories

All the constituents of this material are listed on the Australian Inventory of Industrial

Chemicals.

NZIoCAll the constituents of this material are listed on the New Zealand Inventory of Chemicals.

TSCA

DSL/NDSL

Contact supplier for inventory compliance status.

KECL

Contact supplier for inventory compliance status.

Contact supplier for inventory compliance status.

Contact supplier for inventory compliance status.

Legend:

AIIC- Australian Inventory of Industrial Chemicals

NZIoC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances **IECSC** - China Inventory of Existing Chemical Substances

KECL - Korean Existing Chemicals Inventory

PICCS - Philippines Inventory of Chemicals and Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Other information

Supplier Safety Data Sheet 11/2021

Reason(s) For Issue: Addition/Change of synonymous name(s)

Prepared By

This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and

SDS Services).

Revision date: 18-Mar-2025

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value * Skin designation

C Carcinogen

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

Environmental Protection Agency

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

National Institute of Technology and Evaluation (NITE)

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

Australian Industrial Chemicals Introduction Scheme (AICIS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

U.S. National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since IXOM Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their IXOM representative or IXOM Operations Pty Ltd at the contact details on page 1.

IXOM Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet