HTH Scientific

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 9
Issue date: 10/23/2024 Revision date: 10/23/2027 Version: 1.8

SECTION 1: Identification of the substance/mixture and of the supplier/undertaking

1.1. GHS product identifier

Product form	:	Substance
Trade name	:	HTH Scientific
Chemical name	:	Calcium hypochlorite
Type of product	:	Biocide
EC-No.	:	231-908-7
EC Index-No.	:	017-012-00-7
CAS-No.	:	7778-54-3
UN-No. (ADR)	:	1748
Product code	:	HTH Scientific
Product group	:	Trade product

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Biocide

1.4. Supplier's details

Improchem (Pty) Ltd T/A AECI Water
1 Wharhirst Road
Umbogintwini
South Africa
T +27 (031) 949 8200

1.5. Emergency phone number

Emergency number : 0800 SPILLS OR 0800 774557

SECTION 2: Hazard identification

2.1. GHS classification of the substance/mixture and any national or regional information

Classification according to the United Nations GHS

Oxidising Solids, Category 2	H272	
Acute toxicity (oral), Category 4	H302	
Skin corrosion/irritation, Category 1B	H314	
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400	(M=10)

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects : May intensify fire; oxidiser,Harmful if swallowed,Causes severe skin burns and eye damage,Very toxic to aquatic life.

2.2. GHS label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :

Signal word (GHS-ZA) : Danger

Hazard statements (GHS ZA) : H272 - May intensify fire; oxidiser
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H400 - Very toxic to aquatic life

Precautionary statements (GHS ZA)	:	P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P220 - Keep away from clothing and other combustible materials. P260 - Do not breathe dusts or mists. P273 - Avoid release to the environment.

2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	:	Calcium hypochlorite

Product identifiers: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
Calcium hypochlorite (Main constituent)	CAS-No.: 7778-54-3	100	Ox. Sol. 2, H272 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Aquatic Acute 1, H400 (M=10)

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

First-aid measures general	:	Call a physician immediately.
First-aid measures after inhalation	:	Remove person to fresh air and keep comfortable for breathing. Seek medical attention if ill effect develops.
First-aid measures after skin contact	:	Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	:	Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects	:	Causes severe skin burns and eye damage. Corrosive to respiratory system. Causes severe burns. Corrosive. Causes severe burns.
Symptoms/effects after skin contact	:	Burns.
Symptoms/effects after eye contact	:	Serious damage to eyes.
Symptoms/effects after ingestion	:	Burns.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	:	Water spray. Dry powder. Foam.
Unsuitable extinguishing media	:	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	:	May intensify fire; oxidiser.
Explosion hazard	:	An explosion can occur if either a carbon tetrachloride or a dry ammonium compound fire extinguisher is used to extinguish a fire involving calcium hypochlorite.
Hazardous decomposition products in case of fire	:	Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Precautionary measures fire	:	Evacuate area. Do not approach fire except upwind and only with proper skin and respiratory protection (supplied air only).
Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Evacuate area. No flames, no sparks. Eliminate all sources of ignition. Ventilate area. Avoid contact with skin, eyes and clothing. Avoid inhalation of the product.

6.1.1. For non-emergency personnel

Protective equipment	:	Wear suitable respiratory protective equipment.
Emergency procedures	:	Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

For containment	:	Collect spillage.
Methods for cleaning up	:	Mechanically recover the product. Keep water away from spilled material. Notify authorities if product enters sewers or public waters.
Other information	:	Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.
Hygiene measures	:	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	:	Handle empty containers with care because residual vapours are flammable.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store locked up. Store in a well-ventilated place. Keep cool.
Storage area	:	Do not store product where the average daily temperature exceeds 35°C / 95°F. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products. Shelf life (that is, the period of time before the product goes below stated label strength) is determined by storage time and temperatures. Store in cool, dry and well ventilated area. Prolonged storage at elevated temperatures will significantly shorten the shelf life. Storage in a climate controlled storage area or building is recommended in those areas where extremes of high temperature occur.
Incompatible products	:	Do not allow water (or moist air) contact with this material.
Incompatible materials	:	combustible materials.

Heat and ignition sources	: Keep away from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Hand protection	: Protective gloves
Eye protection	: Protective goggles. Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s)

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Solid
Appearance	: tablet.
Molecular mass	: 142.98 g/mol Source: HSDB
Colour	: White or grey white. White or grey white
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
pH solution	: 14.6 (≥ 12.36) g/l
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 100 °C Source: ICSC
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 170 – 180 °C Releases oxygen
Flammability	: Non flammable.
Vapour pressure	: No data available
Vapour pressure at 50°C	: No data available
Relative vapour density at 20°C	: 6.9
Relative density	: 2.35 Source: HSDB
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Soluble in water. Water: 21 g/100ml 25℃Source: ICSC
Partition coefficient n-octanol/water (Log Pow)	: -2.46 Source: SIDS
Partition coefficient n-octanol/water (Log Kow)	: No data available

Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	Oxidiser.
Explosive limits	:	Not applicable
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available
Physical state	:	Solid
Appearance	:	tablet.

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and Reactivity

10.1. Reactivity

May intensify fire; oxidiser.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Contact with acids liberates toxic gas.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials. Acids.

10.6. Hazardous decomposition products

Chlorine.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Harmful if swallowed.
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

HTH Scientific (7778-54-3)	
LD50 oral rat	850 mg/kg Source: IUCLID
LD50 dermal rabbit	> 2000 mg/kg Source: IUCLID

Skin corrosion/irritation	:	Causes severe skin burns.
Serious eye damage/irritation	:	Assumed to cause serious eye damage
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
IARC group	:	3 - Not classifiable
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified

HTH Scientific (7778-54-3)	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life.
Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Not classified

HTH Scientific (7778-54-3)	
LC50 - Fish [1]	0.06 mg/l Source: ECOTOX
EC50 - Crustacea [1]	0.073 mg/l Source: ECOTOX

12.2. Persistence and degradability

HTH Scientific (7778-54-3)	
Persistence and degradability	No additional information available

12.3. Bioaccumulative potential

HTH Scientific (7778-54-3)	
Partition coefficient n-octanol/water (Log Kow)	-2.46 Source: SIDS
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

HTH Scientific (7778-54-3)	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal Considerations

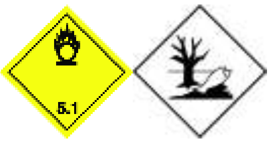
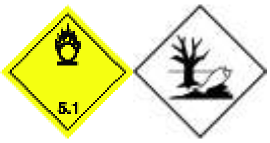
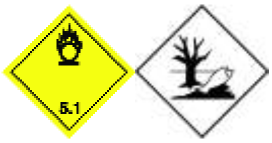
13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1748	1748	1748
14.2. UN Proper Shipping Name		
CALCIUM HYPOCHLORITE, DRY	CALCIUM HYPOCHLORITE, DRY	Calcium hypochlorite, dry

SANS	IMDG	IATA
14.3. Transport hazard class(es)		
5.1	5.1	5.1
		
14.4. Packing group, if applicable		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6. Special precautions for user

SANS

Special provisions (SANS) : 313, 314
Limited quantities (SANS) : 1 kg
Limited quantities (SANS) : 1 kg
Packagings, large packagings and IBCs Packing instructions (SANS) : P002, IBC08
Packagings, large packagings and IBCs Special packing instructions (SANS) : PP85, B2, B4, B13

IMDG

Special provisions (IMDG) : 314
Limited quantities (IMDG) : 1 kg
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P002
Special packing provisions (IMDG) : PP85
EmS-No. (Fire) : F-H - FIRE SCHEDULE Hotel - OXIDIZING SUBSTANCES WITH EXPLOSIVE POTENTIAL
EmS-No. (Spillage) : S-Q - SPILLAGE SCHEDULE Quebec - OXIDIZING SUBSTANCES
Stowage category (IMDG) : D
Stowage and handling (IMDG) : SW1, SW11
Segregation (IMDG) : SGG8, SG35, SG38, SG49, SG53, SG60
Properties and observations (IMDG) : White or yellowish solid (powder, granules or tablets) with chlorine-like odour. Soluble in water. May cause fire in contact with organic material or ammonium compounds. Substances are liable to exothermic decomposition at elevated temperatures. This condition may lead to fire or explosion. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds). Liable to heat slowly. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Dust irritates mucous membranes.

IATA

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y544
PCA limited quantity max net quantity (IATA) : 2.5kg
PCA packing instructions (IATA) : 558
PCA max net quantity (IATA) : 5kg
CAO packing instructions (IATA) : 562
CAO max net quantity (IATA) : 25kg
Special provisions (IATA) : A136, A803
ERG code (IATA) : 5L

14.7. Transport in bulk according to IMO instructions

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

Issue date	:	23/10/2024
Revision date	:	23/10/2027

Abbreviations and acronyms : ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
BLV - Biological limit value
BOD - Biochemical oxygen demand (BOD)
COD - Chemical oxygen demand (COD)
DMEL - Derived Minimal Effect level
DNEL - Derived-No Effect Level
EC-No. - European Community number
EC50 - Median effective concentration
EN - European Standard
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IMDG - International Maritime Dangerous Goods
LC50 - Median lethal concentration
LD50 - Median lethal dose
LOAEL - Lowest Observed Adverse Effect Level
NOAEC - No-Observed Adverse Effect Concentration
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
OECD - Organisation for Economic Co-operation and Development
OEL - Occupational Exposure Limit
PBT - Persistent Bioaccumulative Toxic
PNEC - Predicted No-Effect Concentration
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS - Safety Data Sheet
STP - Sewage treatment plant
ThOD - Theoretical oxygen demand (ThOD)
TLM - Median Tolerance Limit
VOC - Volatile Organic Compounds
CAS-No. - Chemical Abstract Service number
N.O.S. - Not Otherwise Specified
vPvB - Very Persistent and Very Bioaccumulative
ED - Endocrine disrupting properties

Full text of H-statements:	
H272	May intensify fire; oxidiser
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H400	Very toxic to aquatic life

Safety Data Sheet (SDS), South Africa (HCA)