

* **Calcium chloride-2-hydrate Flakes**

Date revised: 16.01.2023

10001495002

Version: 10 / NL

Master No. M-056

Print date: 21.02.2025

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

1.1. Product identifier

Trade name

Calcium chloride-2-hydrate Flakes

Registration no.

EC No.:	233-140-8
CAS No.	10035-04-8
Index no.	017-013-00-2

Use of the substance/mixture

Basic materials with not specifically defined use

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

Identified Uses

At the moment we have no information available for the identified uses. In the presence of these data will be included in the safety data sheet.

Uses advised against

There are no uses have been identified, advised against.

1.3. Details of the supplier of the safety data sheet

Address

Vivochem B.V.	
Darwin 5	
NL 7609 RL Almelo	
Telephone no.	+31 546 577774
Fax no.	+31 546 577701
E-mail address	kwaliteit@vivochem.nl

1.4. Emergency telephone number

National poisoning information center (NVIC) +31 (0) 88 755 8000 Only for the purpose of informing medical personnel in case of acute intoxications.

Only for the purpose of informing medical personnel in case of acute intoxications.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319
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2.2. Label elements

Labelling according to regulation (EC) No 1272/2008**Hazard pictograms****Signal word**

Warning

Hazard statements

H319	Causes serious eye irritation.
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Precautionary statements

P264.1	Wash hands thoroughly after handling.
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P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Further supplemental information

Restricted to professional users

2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients**3.1. Substances****Hazardous ingredients (Regulation (EC) No. 1272/2008)****calcium chloride**

CAS No.	10043-52-4				
EINECS no.	233-140-8				
Registration no.	01-2119494219-28-XXXX				
Concentration		>=	50	%	
Eye Irrit. 2	H319				

Complete text of H-phrases in Chapter 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

If the patient is likely to become unconscious, place and transport in stable sideways position. Remove soiled or soaked clothing immediately, do not allow to dry.

After inhalation

Ensure supply of fresh air. In the event of symptoms take medical treatment.

After skin contact

After contact with skin, wash immediately with plenty of water. Consult a doctor if skin irritation persists.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

After ingestion

Rinse out mouth and give plenty of water to drink. Do not induce vomiting. Take medical treatment.

4.2. Most important symptoms and effects, both acute and delayed

The product can cause skin and eye irritation. Gastrointestinal complaints

4.3. Indication of any immediate medical attention and special treatment needed**Hints for the physician / treatment**

Do not induce vomiting.

Hints for the physician / hazards

Danger acute eye damage.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media

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Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible. In the event of fire the following can be released: Hydrogen chloride (HCl)

5.3. Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective clothing. Keep unprotected persons away. Ensure adequate ventilation. Avoid dust formation.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Pick up mechanically. Rinse away rest with water. Avoid raising dust. When picked up, treat material as prescribed under Section 13 "Disposal".

6.4. Reference to other sections

Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Observe the usual precautions for handling chemicals. Avoid dust formation. Provide good ventilation of working area (local exhaust ventilation if necessary).

Advice on protection against fire and explosion

No special measures required.

7.2. Conditions for safe storage, including any incompatibilities

Do not store together with: Acids, Oxidising agents, Reducing agents

Storage class according to TRGS 510 10-13 Other combustible and non-combustible substances

Keep container tightly closed and dry in a cool, well-ventilated place.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limit values****General dust limit inhalable fraction**

Remarks There is not known any national exposure limit.

Derived No/Minimal Effect Levels (DNEL/DMEL)**calcium chloride**

Reference substance

calcium chloride

DNEL

Conditions

Worker

Long term

inhalative

Concentration

5

mg/m³

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		calcium chloride	
DNEL			
Conditions	Worker	Short term	inhalative
Concentration	10	mg/m ³	

		calcium chloride	
DNEL			
Conditions	Consumer	Long term	inhalative
Concentration	2,5	mg/m ³	

		calcium chloride	
DNEL			
Conditions	Consumer	Short term	inhalative
Concentration	5	mg/m ³	

8.2. Exposure controls**General protective and hygiene measures**

Take off immediately all contaminated clothing. Avoid contact with skin and eyes. Keep separated from food-stuffs and feed-stocks. At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work.

Respiratory protection

Use breathing apparatus in dust-laden atmosphere. Short term: filter apparatus, Filter P2

Hand protection

Appropriate Material	nitrile		
Material thickness	>=	0,5	mm
Breakthrough time	>=	480	min

Eye protection

Tightly fitting safety glasses

Body protection

protective overalls

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state	solid
Colour	white
Odour	odourless

Melting point/freezing point

Value	772	°C
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Initial boiling point and boiling range

Value	>	1600	°C
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Flammability (solid, gas)

Not ignitable

Upper/lower flammability or explosive limits

Remarks	Not applicable
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Flash point

Remarks	Not applicable
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Evaporation rate

Remarks	No data available
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Auto-ignition temperature

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Remarks Not applicable

Decomposition temperature

Remarks No decomposition if used as prescribed.

pH valueValue 8 to 12
Concentration/H₂O 100 g/l**Viscosity**

Remarks No data available

Solubility(ies)Medium Water
Value 745 g/l
Temperature 20 °C**Partition coefficient: n-octanol/water**Remarks Not applicable
Remarks Bioaccumulation is not expected**Vapour pressure**

Remarks No data available

Density

Remarks No data available

Vapour density

Remarks No data available

Particle characteristics

Remarks No data available

9.2. Other information**Odour threshold**

Remarks No data available

Evaporation rate

No data available

Explosive properties

Remarks No data available

Oxidising properties

Remarks No data available

Bulk densityValue 0,75 to 1,0 g/cm³**SECTION 10: Stability and reactivity****10.1. Reactivity**

Product reacts with: Reducing agents, Oxidising agents

10.2. Chemical stability

Under normal conditions of storage and use is the product stable.

10.3. Possibility of hazardous reactions

Reactions with reducing agents. Reactions with oxidizing agents.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

Reducing agents, Oxidising agents

10.6. Hazardous decomposition products

Hydrogen chloride (HCl)

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SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute oral toxicity (Components)****calcium chloride**

Species	rat		
LD50		2301	mg/kg

Acute dermal toxicity (Components)**calcium chloride**

Species	rabbit		
LD50	>	2000	mg/kg

Skin corrosion/irritation**calcium chloride**

evaluation	slightly irritant		
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Serious eye damage/irritation**calcium chloride**

evaluation	irritant		
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Sensitization (Components)**calcium chloride**

No sensitizing effect known.

Mutagenicity (Components)**calcium chloride**

No indications of genotoxicity are available.

Reproduction toxicity (Components)**calcium chloride**

No indications of reproduction toxicity are available.

Carcinogenicity (Components)**calcium chloride**

No indications of carcinogenic effects are available from long-term trials.

Specific Target Organ Toxicity (STOT)**Single exposure****calcium chloride**

No indications of STOT effects are available.

Repeated exposure**calcium chloride**

No indications of STOT effects are available.

Aspiration hazard

No information available.

11.2 Information on other hazards**Endocrine disrupting properties with respect to humans**

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

SECTION 12: Ecological information**12.1. Toxicity****Fish toxicity (Components)****calcium chloride**

Species	Fathead minnow (<i>Pimephales promelas</i>)		
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LC50	4630		mg/l
Duration of exposure	96	h	
Species	Fathead minnow (<i>Pimephales promelas</i>)		
LC50	> 6560		mg/l
Duration of exposure	48	h	
Species	Fathead minnow (<i>Pimephales promelas</i>)		
LC50	> 6660		mg/l
Duration of exposure	24	h	

Daphnia toxicity (Components)**calcium chloride**

Species	Daphnia magna		
LC50	2400		mg/l
Duration of exposure	48	h	
Species	Daphnia magna		
EC50	610		mg/l
Duration of exposure	21	d	
Remarks	on the basis of impairment of fertility		
Species	Daphnia magna		
EC16	320		mg/l
Duration of exposure	21	d	
Remarks	on the basis of impairment of fertility		
Species	Daphnia magna		
LC50	920		mg/l
Duration of exposure	21	d	
Remarks	on the basis of mortality		

Algae toxicity (Components)**calcium chloride**

Species	Pseudokirchneriella subcapitata		
EC50	2900		mg/l
Duration of exposure	72	h	
Remarks	on the basis of biomass		
Species	Pseudokirchneriella subcapitata		
EC50	> 4000		mg/l
Duration of exposure	72	h	
Remarks	on the basis of growth rate		
Species	Pseudokirchneriella subcapitata		
EC20	1000		mg/l
Duration of exposure	72	h	
Remarks	on the basis of biomass		

12.2. Persistence and degradability**Biodegradability (Components)****calcium chloride**

The methods for determination the biological degradation are not applicably for anorganic products.

12.3. Bioaccumulative potential**Partition coefficient: n-octanol/water**

Remarks	Not applicable
Remarks	Bioaccumulation is not expected

Bioconcentration factor (BCF)

Remarks	Not applicable
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12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment**General information**

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No valuation for anorganic substances necessary.

Results of PBT and vPvB assessment

Not applicable

12.6 Endocrine disrupting properties**Endocrine disrupting properties with respect to the environment**

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects**Behaviour in environment compartments**

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations for the product**

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.

Do not allow to enter drains or water courses.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number	The product does not constitute a hazardous substance in land transport.-	The product does not constitute a hazardous substance in sea transport.-	The product does not constitute a hazardous substance in air transport.-
14.2. UN proper shipping name	-	-	-
14.3. Transport hazard class(es)	-	-	-
14.4. Packing group	-	-	-
Label			
14.5. Environmental hazards	-	-	-

Information for all modes of transport**14.6. Special precautions for user**

No information available.

Other information**14.7 Maritime transport in bulk according to IMO instruments**

No data available

SECTION 15: Regulatory information

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15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**Other information**

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

15.2. Chemical safety assessment

No information available.

SECTION 16: Other information**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

Eye Irrit. 2 H319

Hazard statements listed in Chapter 2/3

H319 Causes serious eye irritation.

CLP categories listed in Chapter 2/3

Eye Irrit. 2 Eye irritation, Category 2

Abbreviations

AC: Article Category

ACGIH: American Conference of Governmental Industrial Hygienists

ADN: Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure

ADNR: Accord européen relatif au transport international des marchandises dangereuses par navigation sur le Rhin

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route

AGW: Arbeitsplatzgrenzwert

AICS: Australian Inventory of Chemical Substances

AOX: adsorbable organically bound halogens

ARW: Arbeitsplatzrichtwert (Germany)

ASTM: American Society for Testing And Materials

ATE: acute toxicity estimates

ATP: Adaptation to technical and scientific progress

AWsV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Germany)

BAR: Biologischer Arbeitsstoff-Referenzwert

BCF: bioconcentration factor

BetrSichV: Betriebssicherheitsverordnung (Germany)

BG: Berufsgenossenschaft (Germany)

BGW: Biologischer Grenzwert

BLW: Biologischer Leitwert

BOD: biochemical oxygen demand

CAS: Chemical Abstracts Service

cATpE: converted acute toxicity point estimate

CEA: Comité Européen des Assurances

CEFIC: European Chemical Industry Council

CESIO: Comité Européen des Agents de Surface et leurs Intermédiaires Organiques

ChemG: Chemikaliengesetz (Germany)

CMR: Cancerogen Mutagen Reprotoxic

COD: chemical oxygen demand

DFG: Deutsche Forschungsgemeinschaft

DIN: german industry standard

DMEL: Derived minimal effect level

DNEL: Derived no effect level

DOC: dissolved organic carbon

DSL: Canada Domestic Substances List

EAK: Europäischer Abfallkatalog

EbC: inhibitory concentration of growth

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EC: effective concentration
 EC: European Community
 ECETOC: European Centre For Ecotoxicology and toxicology of Chemicals
 ECHA: European Chemicals Agency
 EEC: European Economic Community
 EG: Europäische Gemeinschaft
 EH40: List of approved workplace exposure limits
 EINECS: European Inventory of Existing Commercial Chemical Substances
 EKA: Expositionsäquivalente für krebserzeugende Arbeitsstoffe
 EL: effect level
 ELINCS: European List of Notified Chemical Substances
 EmS: Emergency Schedules
 EN: european standards
 ENCS: Japanese Existing and New Chemical Substances Inventory
 ERC: Environmental Release Category
 ErC: inhibitory concentration of the growth rate
 EU: European Union
 EWG: Europäische Wirtschaftsgemeinschaft
 FDA: Food and Drug Administration
 FMVSS: National Highway Traffic Safety Administration
 GefStoffV: Gefahrstoffverordnung
 GGVSee: Gefahrgutverordnung See
 GHS: Globally Harmonized System of classification and Labelling of Chemicals
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association
 IBC: Intermediate Bulk Container
 IC: inhibitory concentration
 ICAO: International Civil Aviation Organization
 IECSC: Chinese Chemical Inventory of Existing Chemical Substances
 IMDG: International Maritime Code for Dangerous Goods
 IMO: International Maritime Organization
 INCI: International Nomenclature of Cosmetic Ingredients
 IRPTC: International Register of Potentially Toxic Chemicals
 ISO: International Organization for Standardization
 IUCLID: International Uniform Chemical Information Database
 Cat: category
 KBwS: Kommission zur Bewertung wassergefährdender Stoffe (Germany)
 KECI: Korea Existing Chemicals Inventory
 LC: Lethal concentration
 LD: Lethal dose
 LDLo: lethal dose low
 LGK: storage category
 LL: Lethal level
 LLC: Lowest lethal concentration
 LOAEL: Lowest observed adverse effect level
 LOEC: Lowest observed effect concentration
 LOEL: Lowest observed effect level
 Log pow: logarithm of the distribution coefficient n-octanol / water
 LQ: limited quantity
 MAC: Maximale aanvaarde concentratie (Netherlands)
 MAK: Maximale Arbeitsplatz-Konzentration
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (MARPOL: Marine Pollution)
 MEL: Maximum exposure limits
 MITI: Ministry of International Trade and Industry (Japan)
 n.a.g.: nicht anders genannt
 NATEC: Naval Air Technical Data and Engineering Service Command
 NLP: No-longer Polymer
 NOAEC: No observed adverse effect concentration

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NOAEL: no observable adverse effect level
NOEC: No observable effect concentration
NOEL: No observable effect level
NOELR: no observable effect loading rate
NZIOC: New Zealand Inventory of Chemicals
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational exposure limit
OELV: Occupational exposure limit value
OES: Occupational exposure standards
PBT: Persistent, Bioaccumulative and Toxic
PC: Product Category
PEC: Predicted environmental concentration
PICCS: Philippine Inventory of Chemicals and Chemical Substances
PNEC: predicted no effect concentration
PNEC: Predicted no effect concentration
pOW: Octanol-water partition coefficient
PROC: Process Category
REACH: Registration, Evaluation, Autohorisation and Restriction of Chemicals
RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses
RTECS: Registry of Toxic Effects of Chemical Substances
SAE: Society of Automotive Engineers
STP: Sewage treatment plant
SU: Sector of Use
SUVA: Schweizerische Unfallversicherungsanstalt
SVHC: Substances of very high concern
TA Luft: Technische Anleitung zur Reinhaltung der Luft
ThOD: theoretical oxygen demand
TRA: targeted risk assessment
TRG: Technische Regeln Druckgase (Germany)
TRgA: Technische Regeln für gefährliche Arbeitsstoffe(Germany)
TRGS: Technische Regeln für Gefahrstoffe
TRK: Technische Richtkonzentration
TSCA: Toxic Substances Control Act (USA)
UN: United Nations
VbF: Verordnung über brennbare Flüssigkeiten
VCI: Verband der Chemischen Industrie e.V.
VDE: Verband der Elektrotechnik, Elektronik und Informtaionstechnik e.V.
VDI: Verein Deutscher Ingenieure
VLEP: Valeurs Limites d'exposition Professionnelle
VOC: Volatile Organic Compound
vPvB: Very persistent and very bioaccumulative
VwVwS: Verwaltungsvorschrift wassergefährdende Stoffe
WEL: Workplace exposure limit
WGK: water hazard class (Germany)
WHO: World Health Organization
WoE: Weight of Evidence

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.