Safety data sheet

according to Regulation (EC) No. 1907/2006

ML Calcium

Version number: GHS 1.1 Date of creation: 07.08.2021

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

1.1 Product identifier

Name of the substance	**Calcium chloride**
Trade name	**ML Calcium**
Registration number (REACH)	01-2119494219-28-xxxx
EC number	233-140-8
CAS number	10035-04-8
Index-Nr.017-013-0	0-2
Other designations	
Product number	CC

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

Relevant identified uses	Uses by consumers Calcium chloride water solution to increase the calcium content, primarily in marine aquariums

1.3 Details of the supplier of the safety data sheet

ARKA Biotechnologie GmbH
Mühllach 53-55 90552
Röthenbach Germany

Phone: +49 (0)911 5698610 00
Fax: +49 (0)911 5698610 29
E-mail (knowledgeable person) info@arka-biotech.de

1.4 Emergency number

Emergency information service	Poison control center Munich Available by phone 24h / 7 days a week Phone: +49 (0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP)

Section	Hazard class	Categorie	Hazard class and category	Hazard warning
3.3	Serious eye damage/eye irritation	Cat. 2	(Eye Irrit. 2)	H319

Notes
Full text of H-phrases in SECTION 16.

2.2 Labeling elements

Labeling according to Regulation (EC) No. 1272/2008 (CLP)

Signal word Attention

Pictograms

GHS07

Hazard warnings

H319Causes serious eye irritation.

Safety instructions Safety instructions -

General

P101If medical advice is needed, have product container or label at hand.
P102Keep out of the reach of children.

Safety instructions - Prevention

P264Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safety instructions - Reaction

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove any contact lenses if possible. Continue rinsing.
P337+P313If eye irritation persists: Get medical advice/attention.

Hazardous ingredients for labeling Calcium chloride-2-hydrate

2.3 Other dangers

No additional information is available.

SECTION 3: Composition/information on ingredients

3.1 Fabrics

Substance name	Calcium chloride Calcium chloride-2-hydrate
Index no.	017-013-00-2
Registration number (REACH)	01-2119494219-28-xxxx
EC number	233-140-8
CAS number	10035-04-8
Purity	≤30 %
Sum formula	CaCl2*2H2O
Molar mass	147 /$^{g}_{mol}$

SECTION 4: First aid measures

4.1 Description of first aid measures General notes

Remove soiled, soaked clothing immediately. If symptoms occur or in case of doubt, seek medical advice. If unconscious, place in recovery position and do not administer anything by mouth.

After inhalation

Provide fresh air. If symptoms persist, consult a doctor.

After contact with the skin

Wash skin with water/shower. After extensive contamination: seek medical treatment.

After contact with the eyes

Keep eyelids open and rinse thoroughly with clean, running water for at least 10 minutes. Remove any contact lenses if possible. Continue rinsing. Consult a doctor.

After ingestion by swallowing

Rinse mouth immediately and drink plenty of water (maximum 2 drinking glasses). If symptoms persist consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects. Conjunctivitis (inflammation of the conjunctiva). Gastrointestinal complaints. Vomiting. Nausea.

4.3 Information on immediate medical assistance or special treatment

No information available.

SECTION 5: Fire-fighting measures

5.1 Extinguishing agent

Suitable extinguishing agents

Water, foam, alcohol-resistant foam, ABC powder. Adapt extinguishing measures to the surroundings.

Unsuitable extinguishing agents

Full jet of water

5.2 Special hazards arising from the substance or mixture

Non-flammable.

Hazardous combustion products

Nitrogen oxides (NOx), hydrogen chloride (HCl)

5.3 Instructions for firefighting

Fight the fire with the usual precautions from an appropriate distance. Stay in the danger zone only with self-contained breathing apparatus. Avoid skin contact by maintaining a safe distance or wearing suitable protective clothing. Collect contaminated extinguishing water separately.
Do not allow extinguishing water to enter sewers and bodies of water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Staff not trained for emergencies

Move people to safety. Avoid contact with skin and eyes. Avoid inhalation of dust. Ensure good ventilation. Clear danger zone.

Emergency services

Respiratory protective equipment must be worn when exposed to vapors, dusts, aerosols and gases. Personal protective equipment: see section 8.

6.2 Environmental protection measures

Prevent from entering the sewage system or surface and ground water. Retain and dispose of contaminated washing water.

6.3 Methods and material for retention and cleaning

Instructions on how to prevent spilled materials from spreading

Cover the drainage systems. Observe possible material restrictions! (Information in section 7 or 10). Pick up mechanically.

Further information on spillage and release

Dispose of in suitable containers. Ventilate the affected area. Avoid the development of dust .

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8.
Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Protective measures for safe handling

Recommendations

• Measures to prevent fires and the formation of aerosols and dust

Use local and general ventilation. Take measures against electrostatic discharges. Use only in well ventilated areas.

Advice on general hygiene in the workplace

Wash hands after use. Do not eat, drink or smoke in areas where work is being carried out. Remove contaminated clothing and protective equipment before entering areas where food is eaten. Do not store food and drinks together with chemicals. Do not use containers for chemicals that are normally intended for holding food. Keep away from food, drinks and animal feed.

7.2 Conditions for safe storage, taking into account incompatibilities

Keep container tightly closed. Store in a dry place.
Storage class: 13 - Non-combustible solids that cannot be assigned to any of the aforementioned storage classes.

Incompatible substances or mixtures

Observe storage instructions.

7.3 Specific end uses

See section 1.2.

SECTION 8: Exposure controls/personal protective equipment

8.1 Parameters to be monitored

National limit values

Occupational exposure limits (occupational exposure limits)

Country	Working substance	CAS No.	Identifier	SMW [ppm]	SMW [mg/m³]	KZW [ppm]	KZW [mg/m³]	Source
EN	Dust		AGW		10		20	TRGS 900
EN	Dust		MAK		4			DFG
EN	Dust		AGW		1,25		2,4	TRGS 900
EN	Dust		MAK		0,3		2,4	DFG

Note

KZW Short-term value (limit value for short-term exposure): Limit value that should not be exceeded, unless otherwise specified, based on a duration of 15 minutes

SMW Shift mean value (limit value for long-term exposure): Time-weighted average value, measured or calculated for a reference period of eight hours

Relevant DNEL/DMEL/PNEC and other thresholds

• values relevant for human health

End point	Threshold value	Protection goal, exposure route	Use in	Exposure duration
DNEL	5 mg/m³	Human, inhalative	Employees (industry)	chronic - local effects
DNEL	10 mg/m³	Human, inhalative	Employees (industry)	acute - local effects
DNEL	2.5 mg/m³	Human, inhalative	Consumers (private households)	chronic - local effects
DNEL	5 mg/m³	Human, inhalative	Consumers (private households)	acute - local effects

8.2 Exposure controls and monitoring

8.2.1 Suitable technical control equipment

Technical measures and the use of suitable work procedures take precedence over the use of personal protective equipment. See section 7.1.

8.2.2 Individual protective measures (personal protective equipment)

Eye/face protection

Wear safety goggles/face protection.

Skin protection

Wear protective clothing. Remove contaminated clothing and wash before reuse.

• Hand protection

Wear protective gloves.

• Type of material

Nitrile rubber

• Material thickness

0.11 mm.

• Breakthrough time of the glove material

>480 minutes (permeation level: 6)

• Other protective measures

The above mentioned breakthrough times were determined with material samples of the recommended glove types in laboratory measurements by KCL according to EN374. This recommendation only applies to the product named in the safety data sheet supplied by us and the intended use specified by us. If the product is dissolved in or mixed with other substances and if conditions deviate from EN374, you must contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: www.kcl.de). Wash hands thoroughly after use.

Respiratory protection

Required if dust is present. Suitable particle filter (EN 143): P2 (filters at least 94 % of air particles, color code: white).

8.2.3 Limiting and monitoring environmental exposure

Use suitable containers to avoid contamination of the environment. Prevent penetration into the sewage lization or into surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties Appearance

Physical state	liquid
color	white
odor	odorless
Other physical and chemical parameters	
pH value	7.5 - 8.5 (50 /)g/l
Melting point/freezing point	176 °C
Initial boiling point and boiling range	not determined
Flash point	not applicable
	Evaporation ratenot determined
Flammability (solid, gaseous)	not flammable
Explosion limits of dust/air mixtures	not determined
	Vapor
pressurenot determined	
Density	not determined
Bulk density	1020 /g/l

Solubility(ies)	
Water solubility	1,000 /$^{g}_{l}$ at 0 °C
Partition coefficient	
n-octanol/water (log KOW)	no information available not
Auto-ignition temperature	determined
Viscosity	not relevant (solid)
Explosive properties	none
Oxidizing properties	none

9.2 Other information

No data is available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Exothermic dissolution process with water.

10.2 Chemical stability

The material is stable under normal ambient conditions and under the temperature and pressure conditions to be expected during storage and handling.

10.3 Possibility of hazardous reactions

Exothermic reaction with: Boron trifluoride, vinyl methyl ether, water.
Evolution of dangerous gases or vapors with: Metals, zinc.

10.4 Conditions to avoid

Humidity.

10.5 Incompatible materials

May be corrosive to metals.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products formed during use, storage, spillage and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification according to GHS (1272/2008/EC, CLP) Acute toxicity

Is not to be classified as acutely toxic.

• Values for lethality

Exposure path	End point	Value	Species	Note.
oral	LD50	2,301 mg/kg	Rat	anhydrous substance
oral	LD50	500 - 1,000 /$^{mg}_{kg}$	Rabbit	anhydrous substance
dermal	LD50	>5,000 mg/kg	Rabbit	anhydrous substance

Corrosive/irritant effect on the skin

Is not classified as skin corrosive/irritant.
Rabbit, Result: no irritation, OECD Test Guideline 404 (anhydrous substance).

Serious eye damage/eye irritation

Causes serious eye irritation.
Rabbit, Result: Eye irritation, OECD Test Guideline 405 (anhydrous substance).

Sensitization of the respiratory tract or skin

Is not to be classified as an inhalation or skin allergen.

Summary of the assessment of CMR properties

Is not to be classified as germ cell mutagenic (mutagenic), carcinogenic or toxic for reproduction. Germ cell mutagenicity, in vitro: Ames test, result: negative (anhydrous substance).

Specific target organ toxicity (STOT)

Is not to be classified as specifically target organ toxic.

Aspiration hazard

Is not to be classified as an aspiration hazard.

Other information

Further hazardous properties cannot be excluded. The usual precautionary measures for handling chemicals must be observed. The usual precautionary measures for handling chemicals must be observed.

SECTION 12: Environmental information

12.1 Toxicity

according to 1272/2008/EC: Not to be classified as hazardous to the aquatic environment. Water hazard class (WGK; Germany): 1 (slightly hazardous to water)

(Acute) aquatic toxicity

End point	Value	Species	Method	Note.	Exposure period
LC50	4,630 mg/l	American minnow (Pimephales promelas)		anhydrous substance	96 h
LC50	2,400 mg/l	Water flea (Daphnia)	OECD Guideline 202	anhydrous substance	48 h
EC50	2,900 /mg/l	Freshwater algae	OECD Guideline 201	anhydrous substance	72 h

12.2 Persistence and degradability

No data is available.

12.3 Bioaccumulative potential

No data is available.

12.4 Mobility in soil

No data is available.

12.5 Results of the PBT and vPvB assessment

The substance does not meet the PBT/vPvB criteria according to REACH, Annex XIII.

12.6 Other harmful effects

Avoid release into the environment.

SECTION 13: Disposal instructions

13.1 Waste treatment processes

Product residues must be disposed of in accordance with the Waste Directive 2008/98/EC and national and regional regulations .

Information relevant for waste treatment

Store only in the original container. Do not mix with other waste. Recycling/recovery of inorganic materials.

Information relevant for disposal via wastewater

Do not allow to enter drains.

Waste treatment of containers/packaging

This is hazardous waste; only approved packaging (e.g. in accordance with ADR) may be used.
Completely emptied packaging can be recycled.
Contaminated packaging must be treated in the same way as the substance.

Notes

Please observe the relevant national or regional regulations. Waste must be separated in such a way that it can be treated separately by the municipal or national waste disposal facilities.

SECTION 14: Transport information

14.1	**UN number**	No dangerous goods as defined by national and international transport regulations (not subject to transport regulations)
14.2	**UN proper shipping name**	not relevant
14.3	**Transport hazard classes**	
	Class	-
14.4	**Packaging group**	not relevant
14.5	**Environmental hazards**	none (not hazardous to the environment according to dangerous goods regulations)

14.6 Special precautions for the user

No additional information is available.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The freight is not transported in bulk.

SECTION 15: Legislation

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

National regulations (Austria)

• Ordinance on flammable liquids (VbF)

VbF (group and hazard class): not applicable
Physical state: not liquid.

National regulations (Germany)

• Ordinance on Installations for Handling Substances Hazardous to Water (AwSV)

Water hazard class (WGK): 1 (slightly hazardous to water) - listed substance (VwVwS)

Identification number 220

• Technical Instructions on Air Quality Control (Germany)

Number	Substance group	Class	Conc.	Mass flow	Mass concentration	Note
5.2.1	Total dust, including particulate matter		≥ 25 wt. %	0.2 kg/h	20 mg/m³	2)

Note

2) Even if a mass flow rate of 0.20 kg/h is maintained or undercut, the mass concentration of 0.15 g/m³ must not be exceeded in the exhaust gas

• Storage of hazardous substances in portable containers (TRGS 510) (Germany)

Storage class (LGK): 13 (non-combustible solids)

15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of the abbreviations used
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
AGW	Occupational exposure limit
CAS	Chemical Abstracts Service (database of chemical compounds and their unique key, the CAS Registry Number)
CLP	Regulation (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction (carcinogenic, mutagenic or toxic for reproduction)
DFG	German Research Foundation List of MAK and BAT values, Senate Commission for the Examination of Health Hazardous Substances, Wiley-VCH, Weinheim
DMEL	Derived minimal effect level (derived exposure level with minimal impairment)
DNEL	Derived No-Effect Level (derived exposure level without impairment)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
Index no.	The index number is the identification code given in Part 3 of Annex VI to Regulation (EC) No 1272/2008.
KZW	Short-term value
LGK	Storage class according to TRGS 510, Germany
MARPOL	International Convention for the Prevention of Pollution from Ships (abbreviation of "Marine Pollu- tant")
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration (estimated no-effect concentration)
ppm	Parts per million (parts per million)
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals (Registration, Evaluation, Authorization and Restriction of Chemicals)
SMW	Shift average
TRGS	Technical Rules for Hazardous Substances (Germany)
TRGS 900	Occupational exposure limits (TRGS 900)
VbF	Ordinance on flammable liquids (Austria)
vPvB	Very Persistent and very Bioaccumulative (very persistent and very bioaccumulative)

Important literature and data sources

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU-GHS)

Classification procedure

The classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI, Table 3.1 (harmonized classification).

List of relevant phrases (code and wording as indicated in chapters 2 and 3)

Code	Text
H319	Causes serious eye irritation.

Disclaimer

This information is based on our current knowledge. This SDS has been compiled exclusively for this product and is intended solely for this product.