Calcium Chloride Brine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Rules and Regulations

Version 3.0

Date of issue: 01/04/2003 Revision date: 04/29/2026 Supersedes: 06/03/2015

SECTION 1: Identification

1.1 GHS Product identifier

Product Form:	Mixture
Product Name:	Calcium Chloride Brine

1.3 Recommended use of the chemical and restrictions on use

Industrial processing & uses.

1.4 Supplier's details

Name	Martin Marietta
Address	3700 Wycliff Road Suite 320 Raleigh, NC 27607 USA
Telephone	(800) 648 - 7400

1.5 Emergency phone number

Available 24/7: U.S., CHEMTREC: 1-800-424-9300

Available 24/7: International, CHEMTREC: +1-703-527-3887

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)

- Eye damage/irritation (C.4.5), Cat. 2A

2.2 GHS label elements, including precautionary statements

Pictograms

1. Exclamation mark

Signal word **Warning**

Hazard statement(s)

H319	Causes serious eye irritation

Precautionary statement(s)

P264	Wash thoroughly after handling.
P280	Wear 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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component	Identification	Weight %
Water	CAS no.: 7732-18-5 EC no.: 231-791-2	65 - 75 %
Calcium chloride	CAS no.: 10043-52-4 EC no.: 233-140-8 Index no.: 017-013-00-2	20 - 30 %
Sodium chloride	CAS no.: 7647-14-5 EC no.: 231-598-3 Index no.: 611-142-00-3	5 %
Potassium chloride	CAS no.: 7447-40-7 EC no.: 231-211-8	1 %
Strontium chloride	CAS no.: 10476-85-4 EC no.: 233-971-6	1 %
Magnesium chloride	CAS no.: 7786-30-3 EC no.: 232-094-6	1 %

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled: If experiencing respiratory symptoms: Call a poison center or a doctor.

In case of skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

In case of eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Seek medical advice/attention.

If swallowed: Rinse mouth. Do NOT induce vomiting. If large quantities of this material are swallowed, call a physician immediately.

4.2 Most important symptoms/effects, acute and delayed

Symptoms/injuries after eye contact: Causes serious eye irritation.

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

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5: Fire-fighting measures

5.1 Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Not combustible. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: None known.

5.2 Specific hazards arising from the chemical

Fire hazard: No particular fire hazard.

Explosive hazard: Product is not explosive.

Reactivity: Reacts with Incompatible materials. See Section 7.

5.3 Special protective actions for fire-fighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid contact with eyes. Evacuate unnecessary personnel.

For emergency personnel: Equip cleanup crew with proper personal protection equipment. Use splash goggles when eye contact due to splashing is possible.

6.2 Environmental precautions

Prevent entry to sewers and public waters.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up: Soak up with inert solids, such as clary or diatomaceous earth as soon as possible. Collect spillage.

Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking, and when leaving work.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Keep only in original container in a cool well-ventilated area.

Incompatible products:

Mixture Component	Incompatible Materials
Calcium chloride	Strong acids; Borane/boron oxides; Zine Calcium oxide; Methyl vinyl ether; Bromine trifluoride;
Potassium chloride	Strong acids; Strong oxidizing agents
Sodium chloride	Strong oxidizing agents;

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No OELs for the product or components have been established.

8.2 Appropriate engineering controls

Avoid creating mist or spray. Avoid splashing. Minimize open transfers open transfers that could cause splashing.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

In case of splashing or aerosol production: protective googles

Skin protection

Wear water impervious gloves.

SECTION 9: Physical and chemical properties

Appearance, such as physical state and color	Clear to slightly hazy liquid
Odor	Mild
Odor threshold	No data available
pH	7.6
Melting point and freezing point	-11 - -30 °C / -11 - -30 °C
Initial boiling point and boiling range	102 - 107 °C
Flash point	No data available
Evaporation rate	No data available
Flammability, in the case of solids and gases	No data available
Lower and upper explosion limit or lower and upper flammability limit	No data available
Vapor pressure	No data available
Relative vapor density	No data available
Relative density	1.22 - 1.27
Solubility	Totally soluble in water in all proportions
Partition coefficient — n-octanol/water (logarithmic value)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available

Additional properties

Physical state	Liquid
Color	Clear to tan
Explosive properties	No data available

Further safety characteristics (supplemental)

VOC: 0%

SECTION 10: Stability and reactivity

10.1 Reactivity

Reacts with: Incompatible materials.

10.2 Chemical stability

Stable at ambient temperature and under normal conditions of use and storage.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

Keep/Store away from incompatible materials.

10.5 Incompatible materials

Mixture Component	Incompatible Materials
Calcium chloride	Strong acids; Borane/boron oxides; Zine Calcium oxide; Methyl vinyl ether; Bromine trifluoride;
Potassium chloride	Strong acids; Strong oxidizing agents
Sodium chloride	Strong oxidizing agents;

10.6 Hazardous decomposition products

Formed under fire conditions: Hydrogen chloride gas and calcium oxide.

SECTION 11: Toxicological information

Information on toxicological effects

Component		Dosage	Note
Potassium chloride	LD50 oral rat	3020 mg/kg	
	ATE US (oral)	3020 mg/kg	
Magnesium chloride	LD50 oral rat	> 5000 mg/kg	Read across CAS 7791-18-6; no mortalities
	LD50 dermal rat	> 2000 mg/kg	Read across CAS 7791-18-6; no mortalities
Sodium chloride	LD50 oral rat	3550 mg/kg	
	LD50 dermal rat	>10,000 mg/kg	
	LD50 inhalation rat	> 42 mg/l/4h	
	ATE US (oral)	3550 mg/kg	
	ATE US (dust, mist)	10.5 mgl/4h	

Acute toxicity: Not classified

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

Specific target organ toxicity (STOT)

STOT - single exposure: Not classified

STOT - repeated exposure: Not classified

Aspiration hazard: Not classified

Additional information

Symptoms/injuries after eye contact: Causes serious eye irritation.

SECTION 12: Ecological information

Toxicity

Component		Dosage	Note
Potassium chloride	LC50 fish 1 (Pimephales promelas)	880 mg/l	96 hr
	EC50 Daphnia 1	440-880 mg/l	48 hr
	ErC50 (algae)	> 100 mg/l	
	NOEC (chronic)	500 mg/l	7 d
Magnesium chloride	LC50 fish 1	2119 mg/l	
	EC50 Daphnia 1	548 mg/l	
Sodium chloride	LC50 fish 1 (Lepomis macrochirus)	5840 mg/l	96 hr
	EC50 Daphnia 1	4136 mg/l	48 hr
	NOEC (acute; Daphnia)	1500 mg/l	7 d
	NOEC (chronic; fish)	252 mg/l	33 d

Persistence and degradability

Calcium Chloride Brine: Not established.

Bioaccumulative potential

Calcium Chloride Brine: Not established

Mobility in soil

No additional information available.

SECTION 13: Disposal considerations

Disposal methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

DOT (US)

No regulated.

IMDG

Not regulated.

IATA

Not regulated.

SECTION 15: Regulatory information

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

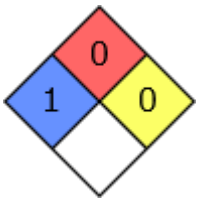
US Regulations

Regulation	Applicability
SARA 302 Components	No chemicals in this material [Water; Sodium Chloride; Potassium Chloride; Calcium Chloride] are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	This material [Water; Sodium Chloride; Potassium Chloride; Calcium Chloride] does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Sara 311/312 Hazards	No SARA Hazards for: Water; Sodium Chloride; Potassium Chloride; Acute Health Hazard for: Calcium chloride.
Toxic Substance Control Act (TSCA) Inventory	Water; Sodium Chloride; Potassium Chloride; Calcium Chloride; Magnesium Chloride; Strontium Chloride

International Regulations

Regulation	Applicability
Canadian Domestic Substance List (DSL)	Water; Calcium Chloride; Sodium Chloride; Potassium Chloride; Strontium Chloride; Magnesium Chloride;
Australian Inventory of Industrial Chemicals	Water; Calcium Chloride; Sodium Chloride; Potassium Chloride; Strontium Chloride; Magnesium Chloride; Magnesium Chloride;
Listed on the EEC Inventory EIENCS (European Inventory of Existing Commercial Chemical Substances)	Calcium Chloride; Sodium Chloride; Potassium Chloride; Strontium Chloride; Magnesium Chloride; Magnesium Chloride

NFPA Rating



NFPA Health Hazard: 1 – Materials that may cause irritation or minor injury.

NFPA Fire Hazard: 0 – Materials that will not burn under typical fire conditions including intrinsically noncombustible materials such as concrete, stone, and stand.

NFPA Reactivity: 0 – Material that in themselves are normally stable, even under fire conditions.

SECTION 16: Other information

according to Federal Register / Vol. 89, No. 98/ Tuesday, May 20, 2024 / Rules and Regulations

Revision date: 04/29/2026

Data sources:

ACGIH 2000
Chemical Inspection & Regulation Service; accessed at http://www.cirs-reach.com/Inventory/Global_Chemicalical_Inventories.html.
Krister Forsberg and S. Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
NIOSH Occupational Health Guide for Chemical Substances - Vol. II September 1978.

Sax - 8th ED. TSCA Chemical Substance Inventory. Accessed at
http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html.
Internal Company test data.

Abbreviations and acronyms:

ACGIH: American Conference of Government Industrial Hygienists
ATE: Acute Toxicity Estimate
CAS: Chemical Abstract Service number
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System
LD50: Lethal Dose for 50% of test population.
OSHA: Occupational Safety & Health Administration
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average

16.1 Further information/disclaimer

Disclaimer: The information contained in this document applies to this specific material as supplied and Martin Marietta believes that the information contained in this SDS is accurate. The suggested precautions and recommendations are based on recognized good work practices and experience as of the date of publication. They are not necessarily all-inclusive or fully adequate in every circumstance as not all use circumstances can be anticipated. It may not be valid for this material if it is used in combination with other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for one's own particular use. Since the actual use of the product described herein is beyond our control, Martin Marietta assumes no liability arising out of the use of the product by others. Appropriate warnings and safe handling procedures should be provided to handlers and users. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulation, rules or insurance requirement. However, products must not be used in a manner which could result in harm.

16.2 Preparation information

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