

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture : Mixture

Ingredient name	CAS number	% (w/w)
calcium hypochlorite	7778-54-3	60 - 100

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

Description of required first aid measures

Eye contact	In case of contact with eyes, flush with fresh water. Check for and remove any contact lenses. Continue rinsing. If irritation persists, get medical attention. Chemical burns must be treated promptly by a physician. Get medical attention if blistering occurs or redness persists. Get medical advice/attention. Get medical attention if irritation persists.
Skin contact	Remove contaminated clothing and wash it before reuse. Chemical burns must be treated promptly by a physician. Get medical attention if blistering occurs or redness persists. Get medical attention if irritation occurs.
Ingestion	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Chemical burns must be treated promptly by a physician. Get medical attention if symptoms occur. Get medical attention if you feel unwell.
Inhalation	Move victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Get medical attention. If necessary, call a poison center or physician. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Eye contact	Adverse symptoms may include the following: pain watering redness
Skin contact	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	Adverse symptoms may include the following: stomach pains nausea or vomiting headache diarrhea
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See toxicological information (Section 11)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Oxidizing material. May intensify fire. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
Special fire-fighting procedures	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action should be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Initiate spill response procedures if required.
Personal protection	Put on appropriate personal protective equipment (see Section 8).
Cleaning method	Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use a water rinse for final clean-up.

7. HANDLING AND STORAGE

Handling	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See Section 8 for additional information on hygiene measures.
Storage and Incompatibility	Store in accordance with local regulations. Separate from reducing agents and combustible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Keep out of reach of children. Store away from incompatible materials (see Section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	None.
Appropriate engineering controls	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Individual protection measures	
Eye/face protection	Continued or severe exposures might require to wear a face shield or chemical splash goggles. It is minimally suggested to wear safety glasses while using or handling this product.
Hands and Body protection	It is suggested to wear chemical-resistant gloves while using or handling this product.
Respiratory protection	It is suggested to wear dust-protection mask for prolonged or intense exposures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid.	pH	10.4 [Conc. (% w/w): 1%]	Flash point	Not available.
Color	White.	Relative density	Not available.	Melting point	Not available.
Odor	Chlorine	Viscosity	Not available.	Boiling point	Not available.
Odor threshold	Not available.	Vapor pressure	Not available.	Fire point	: Not available.
Solubility in water	: Not available.	Vapor density	: Not available.	Evaporation rate	: Not available.
Decomposition temperature	: Not available.	Auto-ignition temperature	: Not available.		
Partition coefficient: n-octanol/ water	: Not available.	Flammability (solid, gas)	: Not available.		
Lower and upper explosive (flammable) limits		: Not available.			

10. STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Incompatible materials	Reactive or incompatible with the following materials: acids combustible materials reducing materials
Conditions to avoid	No specific data.



Possibility of hazardous reactions	Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following: contact with combustible materials Reactions may include the following: risk of causing or intensifying fire
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Route of exposure	Not available.	
	<u>Potential acute health effects</u>	<u>Symptoms</u>
Eye contact	May cause eye burn	Adverse symptoms may include the following: pain watering redness
Skin contact	May cause skin irritation.	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	Harmful if swallowed. May cause burns to mouth, throat and stomach.	Adverse symptoms may include the following: stomach pains nausea or vomiting headache diarrhea
Inhalation	May cause respiratory irritation.	Adverse symptoms may include the following: respiratory tract irritation coughing

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure
calcium hypochlorite	LD50 Oral	Rat	850 mg/kg	-

Information on toxicological effects

Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Sensitization	Not available.
Carcinogenicity	No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

Ecotoxicity data

Product/ingredient name	Result	Species	Exposure
calcium hypochlorite	Acute EC50 0.26 mg/dm3 Fresh water	Algae - Scenedesmus quadricauda	72 hours
	Acute EC50 0.073 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 55 µg/l Marine water	Crustaceans - Panopeus herbstii - Larvae	48 hours
	Acute LC50 23 µg/l Fresh water	Fish - Osmerus mordax - Fry	96 hours

Persistence and degradability : Unknown **Bioaccumulative potential** : Unknown **Mobility in soil** : Unknown **Other adverse effects** : Unknown

