



SAFETY DATA SHEET
Silver Mineral Formula

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name Silver Mineral Formula
Chemical name Calcium carbonate with silver chloride
Synonyms; trade names FROG @ease® Mineral Cartridge
EPA Registration Number 53735-11

Recommended use of the chemical and restrictions on use

Application Pool water conditioner
Uses advised against Use only for intended applications. Not intended for direct application to humans or animals.

Details of the supplier of the safety data sheet

Supplier King Technology, Inc.
6000 Clearwater Dr
Minnetonka, MN 55343
United States
1+ (952) 933-6118
sdsinfo@kingtechnology.com

Emergency telephone number

Emergency telephone CHEMTREC 800-424-9300 (24 hours)

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status This Product is Not Hazardous under the OSHA Hazard Communication Standard. The below classification is non-mandatory under the OSHA Hazard Communication Standard. The environmental classification is according to the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 3rd revised edition, 2009.

Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Label elements

Hazard symbols



Signal word Warning
Hazard statements H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/ container in accordance with national regulations.

Other hazards

Other No additional hazards known.

«46»% of the mixture consists of ingredient(s) of unknown acute toxicity.

3. Composition/information on ingredients

Mixtures

Calcium carbonate > 98% CAS number: 471-34-1
Classification Not Classified
Silver chloride <1% CAS number: 7783-90-6 M factor (Acute) = 1000 M factor (Chronic) = 100
Classification Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

Composition comments The exact percentage/concentration is withheld as a trade secret in accordance with 29 CFR 1910.1200.

4. First-aid measures

Description of first aid measures

General information If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.

Ingestion Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.

Skin Contact Rinse with water.

Eye contact Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation No specific symptoms known.

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Ingestion	No specific symptoms known.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards None known.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material.

Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

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7. Handling and storage

Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

Storage class Miscellaneous hazardous material storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

Calcium carbonate (CAS 471-34-1)

OSHA Permissible Exposure Limit (PEL): TWA 15 mg/m³ (total dust)

OSHA Permissible Exposure Limit (PEL): TWA 5 mg/m³ (respirable dust)

NIOSH Recommended exposure limit (REL): TWA 10 mg/m³ (total dust)

NIOSH Recommended exposure limit (REL): TWA 5 mg/m³ (respirable dust)

Silver chloride (CAS 7783-90-6)

OSHA Permissible Exposure Limit (PEL): TWA 0.01 mg/m³ (Silver soluble compounds, as Ag)

NIOSH Immediately Dangerous to Life or Health (IDLH): TWA 10 mg/m³ (Silver soluble compounds, as Ag)

NIOSH Recommended Exposure Limit (REL): TWA 0.01 mg/m³ (Silver soluble compounds, as Ag)

ACGIH Threshold Limit Value (TLV): 0.1 mg/m³ (Silver soluble compounds, as Ag)

Exposure controls

Appropriate engineering controls Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection No specific eye protection required during normal use.

Hand protection No specific hand protection recommended. Avoid contact with skin.

Other skin and body protection Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

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Environmental exposure controls Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Granules.
Color	White.
Odor	Odorless.
Odor threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapor pressure	No information available.
Vapor density	No information available.
Relative density	No information available.
Bulk density	No information available.
Solubility(ies)	No information available.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	No information available.

10. Stability and reactivity

Reactivity	See the other subsections of this section for further details.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known.
Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.

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Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity

None of the ingredients are listed or exempt.

NTP carcinogenicity

None of the ingredients are listed.

OSHA Carcinogenicity

None of the ingredients are listed.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

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Inhalation	No specific symptoms known.
Ingestion	No specific symptoms known.
Skin Contact	Prolonged contact may cause dryness of the skin.
Eye contact	No specific symptoms known.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	No specific target organs known.

12. Ecological information

Ecotoxicity	The product contains a substance which is very toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.
Toxicity	Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
<u>Persistence and degradability</u>	
Persistence and degradability	The degradability of the product is not known.
<u>Bioaccumulative potential</u>	
Bio-Accumulative Potential	No data available on bioaccumulation.
Partition coefficient	No information available.
<u>Mobility in soil</u>	
Mobility	No data available.
<u>Other adverse effects</u>	
Other adverse effects	None known.

13. Disposal considerations

Waste treatment methods

General information	The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
Disposal methods	Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

14. Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).
DOT transport notes	As supplied, the product is not covered by domestic regulations on the transport of dangerous goods under DOT 49 CFR Part 172.101.
<u>UN Number</u>	

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UN No. (DOT) Not applicable.

UN proper shipping name

Proper shipping name (DOT) Not applicable.

Transport hazard class(es)

DOT transport labels

No transport warning sign required.

Packing group

DOT packing group Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

DOT reportable quantity Not applicable.

DOT TIH Zone Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

**United States FIFRA -
Pesticide Labeling**

This product is a US EPA FIFRA registered pesticide (EPA Reg. No.: 53735-11) and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required for an OSHA GHS SDS. The following is the hazard information as required on the FIFRA label:

Signal Word CAUTION

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

Not applicable.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The following ingredients are listed:

Silver compounds
No RQ Assigned

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Not applicable.

SARA 313 Emission Reporting

Silver compounds

Silver chloride

None of the ingredients are listed or exempt.

CAA Accidental Release Prevention

Not applicable.

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FDA - Essential Chemical

Not applicable.

FDA - Precursor Chemical

Not applicable.

SARA (311/312) Hazard Categories

Not applicable.

OSHA Highly Hazardous Chemicals

Not applicable.

US Clean Water Act - Section 307(a)(1) Toxic Pollutants The following ingredients are listed: Silver compounds

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-I)

Not applicable.

California Air Toxics "Hot Spots" (A-II)

Not applicable.

California Directors List of Hazardous Substances

The following ingredients are listed:
Silver compounds

California Hazardous Waste Control Law The following ingredients are listed: Silver compounds

Massachusetts "Right To Know" List

Not applicable.

Rhode Island "Right To Know" List

Not applicable.

Minnesota "Right To Know" List

Not applicable.

New Jersey "Right To Know" List

Silver compounds

Pennsylvania "Right To Know" List

Silver compounds

Colorado Hazardous Waste Regulation Appendix VIII - Hazardous Waste Constituents The following ingredients are listed: Silver compounds

Louisiana Reportable Quantity List for Pollutants The following ingredients are listed: Silver compounds
No RQ Assigned

New Jersey Discharge Tax List of Hazardous Substances The following ingredients are listed: Silver compounds

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Massachusetts Oil and Hazardous Materials List

The following ingredients are listed: Silver compounds
RQ: (50 lbs)

Inventories

EU - EINECS/ELINCS

Some of the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

Calcium carbonate

US - TSCA 12(b) Export Notification

Not applicable.

Australia - AICS

All the ingredients are listed or exempt.

Japan - ENCS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines - PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

Taiwan - TCSI

All the ingredients are listed or exempt.

16. Other information

Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.

ICAO: Technical instructions for the safe transport of dangerous goods by air.

IMDG: International maritime dangerous goods.

CAS: Chemical abstracts service.

ATE: Acute toxicity estimate.

LC₅₀: Lethal concentration to 50 % of a test population.

LD₅₀: Lethal dose to 50% of a test population (median lethal dose).

EC₅₀: 50% of maximal effective concentration.

PBT: Persistent, bioaccumulative and toxic substance.

vPvB: Very persistent and very bioaccumulative.

Classification abbreviations and acronyms

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Silver Mineral Formula

Revision date	10/24/2022
Revision	03
SDS No.	4830
Hazard statements in full	H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

The information provided on the SDS is correct to the best of our knowledge, information, and belief at the date of this publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release, and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.



SAFETY DATA SHEET SmartChlor

According to Appendix D, OSHA Hazard Communication Standard 29 CFR § 1910.1200.

1. Identification

Product identifier

Product name SmartChlor
Chemical name 1,3-dichloro-5,5-dimethylhydantoin
Synonyms; trade names FROG @ease SmartChlor® Cartridge
EPA Registration Number 53735-14

Recommended use of the chemical and restrictions on use

Application For use as a spa and hot tub disinfectant/sanitizer. Not intended for direct application to humans or animals.
Uses advised against Use only for intended applications.

Details of the supplier of the safety data sheet

Supplier King Technology, Inc.
6000 Clearwater Dr
Minnetonka, MN 55343
United States
1+ (952) 933-6118
sdsinfo@kingtechnology.com

Emergency telephone number

Emergency telephone CHEMTREC 800-424-9300 (24 hours)

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Ox. Sol. 2 - H272
Health hazards Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 STOT SE 3 - H335
Environmental hazards Aquatic Acute 1 - H400

Label elements

Hazard symbols



Signal word

Danger

SmartChlor

Hazard statements

H272 May intensify fire; oxidizer.
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

Precautionary statements

P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P220 Keep away from combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P260 Do not breathe dust.
P261 Avoid breathing dust.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 In case of inadequate ventilation wear respiratory protection.
P301+P312 If swallowed: Call a poison center/ doctor if you feel unwell.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P302+P352 If on skin: Wash with plenty of water.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a poison center/ doctor.
P321 Specific treatment (see medical advice on this label).
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P342+P311 If experiencing respiratory symptoms: Call a poison center/ doctor.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
P391 Collect spillage.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container in accordance with national regulations.

Contains

1,3-Dichloro-5,5-dimethylhydantoin, 1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione

SmartChlor

3. Composition/information on ingredients

Mixtures

1,3-dichloro-5,5-dimethylhydantoin CAS number: 118-52-5	80 - 90%
Classification Ox. Sol. 2 - H272 Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 STOT SE 3 - H335	
1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione CAS number: 89415-87-2 M factor (Acute) = 1	10 - 20%
Classification Ox. Sol. 1 - H271 Acute Tox. 4 - H302 Acute Tox. 3 - H331 Skin Corr. 1B - H314 Skin Sens. 1 - H317 Aquatic Acute 1 - H400	

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information	Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Get medical attention immediately.
Ingestion	Get medical attention immediately. Do not induce vomiting unless under the direction of medical personnel. Give plenty of water to drink. Never give anything by mouth to an unconscious person.
Skin Contact	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.
Eye contact	Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed

General information	Causes severe skin burns and eye damage. May cause respiratory irritation. May cause sensitisation by inhalation. May cause sensitisation by skin contact. Harmful if swallowed. Harmful if inhaled. Harmful in contact with skin.
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SmartChlor

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media In case of fire or smoke, call the fire department. Flood with copious amounts of water. Do not attempt to extinguish the fire with out a self-contained breathing apparatus (SCBA). Do not let the fire burn.

Unsuitable extinguishing media DO NOT use ABC or other dry chemical extinguishers since there is the potential for violent reaction.

Special hazards arising from the substance or mixture

Specific hazards in large fires fueled by other materials, this product may smolder for prolonged periods emitting a dense black smoke. Any spilled material should be considered contaminated. Neutralize to a non-oxidizing material for safe disposal. Materials which appears undamaged except for being damp on the outside should be opened and inspected immediately. If the material is damp, it should be neutralized to a non-oxidizing material for safe disposal.

Hazardous combustion products Harmful gases or vapors. Hydrogen bromide (HBr). Hydrogen chloride (HCl). Bromine. Chlorine.

Advice for firefighters

Protective actions during firefighting Ammonium phosphate (ABC) fire extinguishers should NOT be used.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing, gloves, eye and face protection.

Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

Methods and material for containment and cleaning up

Methods for cleaning up DO NOT ADD WATER to spilled material. DO NOT use floor sweeping compounds to clean up spills. Using clean dedicated equipment, sweep and scoop all spilled material, contaminated soil and other contaminated material and place into clean dry containers for disposal. Do not close containers containing wet or damp material. They should be left open to disperse any hazardous gases that may form. DO not transport wet or damp material.

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. STRONG OXIDIZING AGENT. Do not mix with other chemicals. Never add water to the product. Always add this product to large quantities of water. Use clean dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion. in case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area.

SmartChlor

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Wash contaminated skin thoroughly after handling. Eye wash facilities and emergency shower must be available when handling this product. Persons susceptible to allergic reactions should not handle this product. Persons with impaired lung function should not handle this product. Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not store near food, foodstuffs, drugs or potable water supplies.

Maximum Storage Temperature

125 F (52 C)

Specific end uses(s)

Specific end use(s)

For use as a spa and hot tub disinfectant/sanitizer. Not intended for direct application to humans or animals.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

1,3-dichloro-5,5-dimethylhydantoin

Long-term exposure limit (8-hour TWA): ACGIH 0.2 mg/m³

Short-term exposure limit (15-minute): ACGIH 0.4 mg/m³

Long-term exposure limit (8-hour TWA): OSHA 0.2 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

OSHA = Occupational Safety and Health Administration.

1,3-dichloro-5,5-dimethylhydantoin (CAS: 118-52-5)

Immediate danger to life and health 5 mg/m³

Exposure controls

Appropriate engineering controls

All handling should only take place in well-ventilated areas. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist.

Eye/face protection

Wear goggles or safety glasses with side shields when handling this product.

Hand protection

Avoid skin contact. Wear rubber gloves when handling this product.

Other skin and body protection

Avoid contact with skin. Wear rubber gloves when handling this product.

Hygiene measures

Take off contaminated clothing and wash it before reuse.

Respiratory protection

Avoid breathing dust. Avoid breathing gas.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Granules.

Color

Off-white.

SmartChlor

Odor	Chlorine.
Odor threshold	No information available.
pH	(1% slurry at 25 C) = 3.4
Melting point	range: 106 - 130 C
Initial boiling point and range	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	The product is not combustible but in a fire may release oxygen, which can increase the burning rate of flammable materials.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapor pressure	No information available.
Vapor density	No information available.
Relative density	No information available.
Bulk density	No information available.
Solubility(ies)	0.43 g/100 g water @ 25°C
Partition coefficient	No data available.
Auto-ignition temperature	No information available.
Decomposition Temperature	180°C
Viscosity	No information available.

10. Stability and reactivity

Reactivity	Contact with water/moisture causes exothermic reaction or decomposition. May cause or intensify fire; oxidizer.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Hazardous polymerization will not occur. Contact with water liberates toxic gas. Always dilute by carefully pouring the product into water. Reacts with incompatible materials.
Conditions to avoid	Do not store near heat sources or expose to high temperatures. Do not use in confined spaces without adequate ventilation and/or respirator. Avoid contact with water or moisture until ready for use. Avoid contact with contaminated tools and objects.
Materials to avoid	Avoid contact with water or concentrated organic material in the container. Avoid contact with all other chemicals. Particularly avoid contact with easily oxidizable material: ammonia, urea, or similar nitrogen containing compounds; inorganic reducing compounds; floor sweeping compounds; calcium hypochlorite, bleach; other swimming pool/spa chemicals in their concentrated form; alkalis.

SmartChlor

Hazardous decomposition products Hydrogen bromide (HBr). Hydrogen chloride (HCl). Bromine. Chlorine.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 514.4

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 18.63

Skin corrosion/irritation

Skin corrosion/irritation Causes burns.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitization

Respiratory sensitization May cause sensitization or allergic reactions in sensitive individuals. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitization

Skin sensitization May cause sensitization or allergic reactions in sensitive individuals. May cause an allergic skin reaction.

Germ cell mutagenicity

Summary Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity Not listed.

NTP carcinogenicity Not listed.

OSHA Carcinogenicity Not listed.

Reproductive toxicity

Summary Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Summary Based on available data the classification criteria are not met.

Aspiration hazard

Summary Based on available data the classification criteria are not met.

12. Ecological information

Acute aquatic toxicity

Acute toxicity - fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0.58 mg/l - 96 h
Remarks: (HSDB)

Acute toxicity - aquatic invertebrates EC50 - Daphnia magna (Water flea) - 0.47 mg/l - 48 h
Remarks: (HSDB)

Chronic aquatic toxicity

Summary No data available.

Persistence and degradability

SmartChlor

Persistence and degradability Product ultimately hydrolyzes to dimethylhydantoin (DMH) and ethylmethyl hydantoin (MEH). Performance results from an actual operating sewage waste treatment plant demonstrate that both DMH and MEH are biodegradable compounds.

Bioaccumulative potential

Bio-Accumulative Potential No data available.

Partition coefficient No data available.

Mobility in soil

Mobility No data available.

13. Disposal considerations

Waste treatment methods

Disposal methods Use or reuse if possible. Pesticide wastes are toxic. Improper disposal of excess pesticide or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, Contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction or fire. The user of the material has the responsibility to dispose of unused material, residues, and containers in compliance with all relevant local, state, and federal laws and regulations regarding treatment, storage, and disposal of hazardous waste.
Do not reuse container. Rinse thoroughly before discarding in trash.

14. Transport information

General As supplied, this product is consigned under the Limited Quantities provisions.

15. Regulatory information

Regulatory Status This product is a US EPA FIFRA registered pesticide (EPA Reg. No.: 53735-14) and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required for an OSHA GHS SDS. The following is the hazard information as required on the FIFRA label: DANGER Corrosive. Causes irreversible eye and skin damage. May be fatal if swallowed. Irritating to nose and throat. Avoid breathing dust and fumes. Do not get in eyes, on skin or on clothing. Wear goggles or safety glasses and rubber gloves when handling product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

Not listed.

Massachusetts "Right To Know" List

118-52-5

Rhode Island "Right To Know" List

118-52-5

New Jersey "Right To Know" List

118-52-5

SmartChlor

Pennsylvania "Right To Know" List

118-52-5

Inventories

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

Not applicable.

16. Other information

Revision date	10/24/2022
Revision number	03
SDS No.	4834
Hazard statements in full	H271 May cause fire or explosion; strong oxidizer. H272 May intensify fire; oxidizer. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H331 Toxic if inhaled. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H400 Very toxic to aquatic life.

The information provided on the SDS is correct to the best of our knowledge, information, and belief at the date of this publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release, and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.