

1. Product and Company Identification

Product name	Mineraluxe™ Hot Tub Sanitizer Brominating Tablets
Type of product and use	Spa and hot tub disinfectant
Supplier	Mineraluxe™ c/o Backyard Brands, Inc. 401 S. Enterprise Blvd. Lebanon, IN 46052 USA 1-866-875-0012 24 HR. EMERGENCY TELEPHONE NUMBERS Poison Control Center (Medical): (800) 420-9236 CANUTEC (Canadian Transportation): (613) 996 - 6666 CHEMTREC (US Transportation): (800) 424 – 9300.
Chemical name	Bromo-chloro-5,5-dimethylhydantoin
Synonym(s)	BCDMH
Chemical formula	C ₅ H ₆ BrClN ₂ O ₂
Chemical family	Halogenated hydantoin
Molecular weight	241.5

2. Hazards identification

GHS classification	Acute Tox. 4, H302 Harmful if swallowed Skin Corr. 1B, H314 Causes severe skin burns and eye damage Skin Sens. 1, H317 May cause an allergic skin reaction Aquatic Acute 1, H400 - Very toxic to aquatic life
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Labels and other form of warning

Symbol(s)



Signal Word

DANGER

Hazard statements

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H400 - Very toxic to aquatic life
EUH031 - Contact with acids liberates toxic gas

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
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 or doctor/physician
P362 + P364 - Take off all contaminated clothing and wash it before reuse
P391 - Collect spillage
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing should not be allowed out of the workplace
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P405 - Store locked up
P501 - Dispose of contents/container to licensed hazardous waste disposal agent/site in accordance with local, regional, national and international legislation

NFPA Ratings (Scale 0-4)

Health = 3, Fire = 0, Reactivity = 1. Special Hazard Warning: OXIDIZER.

HMIS Ratings (Scale 0-4)

Health = 3, Fire = 0, Reactivity = 1.

3. Composition / information on ingredients

Components	CAS No.	Weight %
Bromochloro-5,5-dimethylhydantoin	32718-18-6	96

4. First-aid measures

Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Inhalation	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
Ingestion	Call poison control center, or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, acute or delayed

- Eye Contact	Corrosive to eyes
- Skin contact	Corrosive to skin Exposure to wet skin may cause burns.
- Inhalation	Irritant to upper respiratory tract.
- Ingestion	Harmful if swallowed.
- Sensitization	May cause skin sensitization
Note to physician	Corrosive No specific antidote. Treat symptomatically and supportively. In case of ingestion DO NOT induce vomiting. Probable mucosal damage may contraindicate the use of gastric lavage.

5. Fire-fighting measures

Suitable extinguishing media	Dry powder or carbon dioxide. Water may be ineffective. In case of exothermic decomposition and appearance of smoke, water should be used to suppress it.
Extinguishing media not to be used	Do not use dry chemical extinguisher containing ammonia compounds.
Unusual fire and explosion hazards	Forms explosive mixtures with combustible, organic or other easily oxidizable materials. When heated to decomposition, may release poisonous and corrosive fumes. Dust may form a weak explosive mixture with air (class St1), but is not sensitive to ignition from electrostatic discharges.

Fire-fighting procedure

Cool containers with water spray. In closed stores, provide fire-fighters with self-contained breathing apparatus in positive pressure mode.

6. Accidental release measures

Personal precautions

Evacuate area. Use respirator with combined filter (inorganic gas and dust), gloves, chemical safety goggles and body covering clothes. If material is decomposing, use self-contained breathing apparatus and a fully encapsulated suit.

Methods for cleaning up

Sweep up, place in a suitable container and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Environmental precautions

Avoid access to streams, lakes or ponds

7. Handling and storage

Handling

Keep containers tightly closed.

Storage

Keep away from all sources of ignition. Recommended storage temperature below 30°C. For transportation purposes it is possible to store at temperatures up to 50°C. Store in a dry, well-ventilated area. Store away from incompatible materials (see "materials to avoid")

8. Exposure controls / personal protection

Exposure Limits:

Components	ACGIH-TLV Data	OSHA (PEL) Data
Bromochloro-5,5-dimethylhydantoin 32718-18-6	Not determined	Not determined

Manufacturer's TLV-Ceiling

0.1 mg/m³

Ventilation requirements

Use local exhaust as necessary, especially under dusty conditions. Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

Personal protective equipment:

- **Respiratory protection** Respirator with combined filter (inorganic gas and dust).
- **Hand protection** Neoprene gloves
- **Eye protection** Chemical safety goggles
- **Skin and body protection** Body covering clothes and boots

Hygiene measures

Do not eat, smoke or drink where material is handled, processed or stored. Wash hands thoroughly after handling and before eating or smoking. Safety shower and eye bath should be provided.

9. Physical and chemical properties

Appearance	White to off-white tablet with faint halogenous odour
Melting point/range	Not applicable (decomposes)
Boiling point/range	Not applicable
Flash point	Not applicable
Evaporation rate (ether=1)	Not applicable under standard conditions
Flammable/Explosion limits	Not available
Vapor pressure	9.35x10 ⁽⁻³⁾ Pa (25 °C)
Vapor density	Not applicable under standard conditions
- Solubility in water	0.22 g/100ml at 25 °C
- Solubility in other solvents	Benzene: 2.5 g/100g at 25 °C
Partition coefficient (n-octanol/water)	Kow = <1 (pH 5-9)
Auto-ignition temperature	Not available
Decomposition temperature	>160 °C
Viscosity	Not applicable
Specific gravity	1.8-2.0
Explosive properties	Dust may form a weak explosive mixture with air (class St1), but is considered insensitive to ignition from electrostatic discharges.
Oxidizing properties	Not sufficient for classification as oxidizer (Method A17 & UN Test O.1)
Particle size	Not available

10. Stability and reactivity

Reactivity	Combustible materials. Oxidizing agents. Bases.
Stability	Stable under normal conditions
Possibility of hazardous reactions	Contact with combustible materials may initiate decomposition of the material and emission of smoke. Contact with acids liberates toxic gas.
Conditions to avoid Materials to avoid Hazardous decomposition products	Exposure to moisture. Heating above decomposition temperature. Oxidizing agents. Bases. COMBUSTIBLE ORGANIC MATERIALS. CO, HBr, Cl ₂ , NO _x , HCl, CO ₂

11. Toxicological information

Likely Routes of Exposure	Skin Eye contact Inhalation Ingestion
Acute toxicity:	
- Rat oral LD50	929 mg/kg
- Rat inhalation LC50	1.1 mg/l/4 hour (powder)
- Dermal irritation (rabbit)	Corrosive
Dermal sensitization	Sensitizer.
Chronic toxicity	Prolonged skin contact may cause sensitization
Mutagenicity	Mutagenic by the Ames Test Mutagenic in the mouse lymphoma L5178Y test system. Non genotoxic in an in-vivo micronucleus test in mice. Non genotoxic in an in-vivo liver unscheduled DNA synthesis (USD) assay
Carcinogenicity	Not classified by IARC Not included in NTP 12th Report on Carcinogens

12. Ecological information

Aquatic toxicity:

- 96 Hour-LC50, Fish
1.2 mg/l (Eastern oyster, Acute flow through)
1.9 mg/l (Mysid shrimp, Acute flow through)
0.4 mg/l (Rainbow trout, Static)
0.46 mg/l (Bluegill sunfish, Static)
1.6 mg/l (Sheepshead minnow, Acute flow through)
- 48 hour-LC50, *Daphnia magna* 0.75 mg/l (Static)

Avian toxicity:

- Oral LD50, Bobwhite quail 1839 mg/kg
- Dietary LC50, Mallard duck >5620 ppm
- Dietary LC50, Bobwhite quail >5620 ppm

Persistence and degradability BCDMH and the main degradation product DMH are biodegradable and do not persist in the environment

Bioaccumulative potential Based on low Kow values, i.e less than 1, BCDMH would not be predicted to significantly accumulate in aquatic organisms, or absorb to organic material in soil or sediment.

Mobility in soil There will be no exposure of BCDMH to soil. The main degradation product DMH is mobile in soil.

13. Disposal considerations

Waste disposal	Dispose of in approved landfill sites or an approved incinerator. Crush and bury empty containers. Avoid access to streams, lakes or ponds. Observe all federal, state and local environmental regulations when disposing of this material.
Disposal of Packaging	Crush and bury empty containers. Do NOT throw into public waste disposal site. Avoid contact with organic materials and moisture. See conditions to avoid (Section 10)

14. Transportation information

DOT	UN number 1479 Proper shipping name: Oxidizing Solid, n.o.s. (Bromo-Chloro-5,5-DimethylHydantoin) Class: 5.1 - Oxidizing substances Label: OXIDIZER (5.1) Packing Group II Marking: Marine Pollutant
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15. Regulatory Information

USA	This product is registered under FIFRA TSCA: EPA Number P-94-34 BCDMH is listed in TSCA inventory under CAS number:16079-88-2 Subject to reporting under SNUR (Significant New Use Rule) -any use, 60 CFR 11037
- EPA Registration no.	8622-70
- Emergency overview in Accordance to EPA Master Label	DANGER Corrosive Causes irreversible eye damage and skin burns Eye contact may cause loss of vision May be fatal if inhaled Irritating to nose and throat Harmful if absorbed through skin or swallowed Do not smoke, drink, or eat when handling. This product is toxic to fish and aquatic organisms. Strong oxidizing agent
- SARA 313	This product does not contain a chemical listed at or above de minimis concentrations
- SARA (311, 312)	This product is a hazardous chemical under 29CFR 1910.1200, and categorized as an immediate and delayed health, and reactivity physical hazard
- Waste Classifications	Not listed under CERCLA. If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number:D001.

EU	Reported in EINECS
EC No.	251-171-5
Japan	ENCS No. 5-6368
New Zealand Inventory	Listed in NZIoC
China	
- China inventory	Listed in IECSC
Philippines	Listed in PICCS

16. Other information

COMMENTS: The contents and format of this MSDS are in accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (GHS).

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