



SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29 CFR 1910.1200 (GHS)

Product name	Azure 1" Brominating Tablets	
Product id	AS_8424B_AZ	
Revision date	28/01/2014	Revision: 6
Supersedes	27/02/2012	

1. Identification of the substance & the company

Chemical name	Bromo-chloro-5,5-dimethylhydantoin
Synonym(s)	BCDMH, Halobrom
Chemical formula	$C_5H_6BrClN_2O_2$
Chemical family	Halogenated hydantoin
Type of product and use	Swimming pool and Spa disinfectant
Supplier	NAVA Water Products 95 MacCorkle Ave. SW, South Charleston, WV 25303, USA Toll Free Number: 1-800-811-2327
Emergency Telephone	Chemtrec (800)424-9300 Medical (800)420-9236

2. Hazards identification

GHS

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



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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
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
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

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
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
P273 - Avoid release to the environment
P362 + P364 - Take off all contaminated clothing and wash it before reuse
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
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P391 - Collect spillage
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.



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3. Composition / information on ingredients

Components	CAS No.	Weight %
Bromochloro-5,5-dimethylhydantoin	32718-18-6	98

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
May cause temporary or permanent eye damage.

- **Skin contact** Exposure to wet skin may cause burns.
May cause skin sensitization

- **Inhalation** Irritant to upper respiratory tract.
Shortness of breath, headache and nausea.



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Note to physician Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically and supportively.

5. Fire - fighting measures

Suitable extinguishing media Dry powder, carbon dioxide or water spray. 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 Oxidizing agent. 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 dust respirator, rubber gloves and chemical safety goggles.

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, cool, well-ventilated area. Store away from incompatible materials (see "materials to avoid").



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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-TWA Recommendation 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** PVC 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:
- **Solubility in water** 0.22 g/100ml at 25°C



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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.
Oxidising properties	Oxidiser
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.
Conditions to avoid	Exposure to moisture. Heating above decomposition temperature.
Materials to avoid	Bases COMBUSTIBLE ORGANIC MATERIALS Oxidizing agents
Hazardous decomposition products	CO, HBr, Cl ₂ , NO _x , HCl, CO ₂

11. Toxicological information

Likely Routes of Exposure	Skin Eye contact Inhalation
Acute toxicity:	
- Rat oral LD50	929 mg/kg



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- Rat inhalation LC50	1.1 mg/l/4 hour (powder)
- Dermal irritation (rabbit)	Corrosive
Dermal sensitization	Sensitizer.
Chronic toxicity	Not available
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

Bioaccumulative potential	Based on low Kow values, i.e less than 1, BCDMH would not be predicted to significantly accumulate in aquatic organisms, or sorb to organic material in soil or sediment.
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Germany, water endangering classes (WGK)	2
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13. Disposal considerations

Waste disposal

Dispose of in approved landfill sites or an approved incinerator.
Avoid access to streams, lakes or ponds.
Observe all federal, state and local environmental regulations when disposing of this material.
This material is classified as a RCRA hazardous waste with the characteristic of ignitability, hazardous waste number:D001.

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
Note: Certain shipping modes or package sizes may have exceptions from the transport regulations and may be classified as Consumer Commodity and Limited Quantity. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.

IMDG

Proper shipping name: Oxidizing solid, corrosive, n.o.s.
(Bromo-Chloro-5,5-DimethylHydantoin)
Class: 5.1 - Oxidizing substances
Subsidiary risk: 8
Label: OXIDIZING AGENT (5.1) and CORROSIVE (8)
Packing Group: III
Mark: MARINE POLLUTANT



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ICAO/IATA Proper shipping name: Oxidizing solid, corrosive, n.o.s
(Bromo-Chloro-5,5-DimethylHydantoin)
Class: 5.1 Subsidiary Risk: 8
Hazard label(s): OXIDIZER (5.1) & CORROSIVE (8)
Packing group: III
Marking: Environmentally hazardous substance

15. Regulatory information

USA This product is registered under FIFRA
TSCA: EPA Number P-94-34
Subject to reporting under SNUR (Significant New Use Rule) -any use, 60 CFR 11037

- EPA Registration no. 8622-41-75217

- Emergency overview in accordance to EPA Master Label DANGER
Corrosive
Causes irreversible eye damage and skin burns
Eye contact may cause loss of vision
Harmful if inhaled
Irritating to nose and throat
Harmful if absorbed through skin or swallowed
Users must wear chemical-resistant gloves while placing the tablet in the swimming pool/spas
Strong oxidizing agent
This product is toxic to fish and aquatic organisms.

- 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.



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

16. Other information

This data sheet contains changes from the previous version in section(s)
2, 4, 10, 14, 15

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, NAVA Water Products makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will NAVA Water Products be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

In an event of discrepancy between the contents of this SDS and the English version of it, the English version shall prevail.

Prepared by	North America Regulatory Affairs ICL-IP America Inc. 95 MacCorkle Ave., S.W. South Charleston, WV 25303 USA Phone number: (304) 746-3000
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End of safety data sheet