



SAFETY DATA SHEET

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

Product name	E-Z Clor Bromagen	
Product id	AS_8424T-96_EZ	
Revision date	11/09/2014	Revision: 1

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
Molecular weight	241.5
Type of product and use	Swimming pools and Spas & Hot Tubs disinfectant
Supplier	ICL-IP America Inc. 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

Emergency overview	White to off-white tablet with faint halogenous odour Corrosive Causes irreversible eye damage and skin burns Irritating to nose and throat May be fatal if inhaled Harmful if absorbed through skin or swallowed Oxidizer
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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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 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 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention 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 P405 - Store locked up P501 - Dispose of contents/container in accordance with national and international regulations	
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



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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** Causes severe eye damage.

- **Skin contact** Causes severe skin burns
May cause skin sensitization

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

- **Ingestion** Harmful if swallowed.

Note to physician Corrosive
No specific antidote.
In case of ingestion DO NOT induce vomiting.
Treat symptomatically and supportively.
Probable mucosal damage may contraindicate the use of gastric lavage.

5. Fire - fighting measures

Suitable extinguishing media Dry powder, carbon dioxide or water spray. Water may be ineffective. In case of exothermic decomposition and appearance of smoke, water should be used to suppress it.



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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 Prevent entry into sewers and watercourses

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 Recommendation 0.1 mg/m³



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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 9.35×10^{-3} Pa (25°C)
Vapor density Not applicable under standard conditions
Solubility:
- **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) $K_{ow} = <1$ (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 Not sufficient for classification as oxidizer (Method A17 & UN Test O.1)
Particle size Not available



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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	COMBUSTIBLE ORGANIC MATERIALS. Bases. 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
- 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 included in NTP 13th Report on Carcinogens Not classified by IARC
Aspiration hazard	Not expected to occur



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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)



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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

15. Regulatory information

USA This product is registered under FIFRA
(CAS #16079-88-2)
TSCA: EPA Number P-94-34
Subject to reporting under SNUR (Significant New Use Rule) -any use, 60 CFR
11037

- EPA Registration no. 42177-74

- Emergency overview in accordance to EPA Master Label DANGER
Corrosive
Causes irreversible eye damage and skin burns
Eye contact may cause loss of vision
Irritating to nose and throat
Harmful if absorbed through skin or swallowed
This pesticide 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



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Japan	ENCS No. 5-6368
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New Zealand Inventory	Listed in NZIoC
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China - China inventory	Listed in IECSC
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Philippines	Listed in PICCS
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16. Other information

This data sheet contains changes from the previous version in section(s)
2, 4, 5, 6, 8, 9, 10, 11, 15, 16

All sections reformatted in accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (GHS)

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End of safety data sheet