

MATERIAL SAFETY DATA SHEET

Product Name Halobrom T-30
Product id 8424TMU
Revision date 01/01/2008
Supersedes 05/03/2007

Revision: 7

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 pool and Spa disinfectant
Company Clearon Corp.
95 MacCorkle Ave. SW, South Charleston, WV 25303, USA
Tel: (304) 746-3000
Emergency telephone number:
- For UK and Ireland (01865)407333
- For Europe (+31) 115 689000
- For USA Chemtrec (800) 424-9300
- For Asia - Pacific ALERT-SGS
24 hr Toll Free Number : +800 ALERTSGS (+800-2537-8747)
24 hr Singapore Exchange Number : +65 6542-9595

2. Hazards identification

Adverse human health effects Causes burns
May cause sensitization by skin contact
Environmental effects Very toxic to aquatic environment
NFPA Ratings (Scale 0-4) Health = 3, Fire = 0, Reactivity = 1.
Special Hazard Warning: OXIDIZER

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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.

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.
 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 temperature 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 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** Approved respirator
- **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 carefully 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
Flammable/Explosion limits Not available
Auto-ignition temperature Not available
Vapour pressure 9.35x10⁽⁻³⁾ Pa (25°C)
Vapor density Not applicable under standard conditions
Evaporation rate (ether=1) 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
Specific gravity 1.8-2.0
Decomposition temperature >160°C
Partition coefficient (n-octanol/water) Kow = <1 (pH 5-9)

10. Stability and reactivity

Stability Stable under normal conditions

Materials to avoid Oxidising agents
Bases
COMBUSTIBLE ORGANIC MATERIALS,

Conditions to avoid Exposure to moisture Contact with combustible materials may initiate decomposition of the material and emission of smoke.
Heating above decomposition temperature

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Hazardous decomposition products	CO, HBr, Cl ₂ , NO _x , HCl, CO ₂
Hazardous polymerization	Will not occur

11. Toxicological information

Acute toxicity:	
- Rat oral LD ₅₀	929 mg/kg
- Rat inhalation LC ₅₀	1.1 mg/l/4 hour (powder)
- Dermal irritation (rabbit)	Corrosive
Dermal sensitization	Sensitizer
Effects of overexposure :	
- Ocular	Severe irritant May cause temporary or permanent eye damage
- Dermal	Exposure to wet skin may cause severe irritation May cause skin sensitization
- Inhalation	Irritant to upper respiratory tract Shortness of breath, headache and nausea
Chronic toxicity	Not available
Mutagenicity	Mutagenic by the Ames Test Mutagenic in the mouse lymphoma L5178Y test system. Non genotoxic in an in-vivo in micronucleous test in mice Non genotoxic in an in-vivo liver unscheduled DNA synthesis (USD) assay
Carcinogenicity	Not classified by IARC Not included in NTP 11th Report on Carcinogens

12. Ecological information

Aquatic toxicity :	
- 96 Hour-LC ₅₀ , 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-LC ₅₀ , <i>Daphnia magna</i>	0.75 mg/l (Static)

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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 one, BCDMH would not be predicted to significantly accumulate in aquatic organisms, or sorb to organic material in soil or sediment.

Germany, water endangering classes (WGK)

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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.

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

UN No.

3085

IMO

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

ADR/RID

Proper shipping name: Oxidizing solid, corrosive, n.o.s
(Bromo-Chloro-5,5-DimethylHydantoin)
Class: 5.1 - Oxidizing substances
Classification Code: OC2
Danger Label Model No.:5.1+8
Hazard identification No. 58
Packing group: III

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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 & Corrosive Packing group: III
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15. Regulatory information

EEC No.	251-171-5
- Indication of danger	C - Corrosive. N - Dangerous for the Environment.
- R Phrases	R 22 : Harmful if swallowed. R 31 : Contact with acids liberates toxic gas. R 34: Causes burns. R 43: May cause sensitization by skin contact. R 50 : Very toxic to aquatic organisms
- S Phrases	S 1/2 : Keep locked up and out of reach of children. S 8: Keep container dry. S 13 : Keep away from food, drink and animal feeding stuffs. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28: After contact with skin, wash immediately with plenty of water S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S 41 : In case of fire and/or explosion do not breathe fumes. S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.
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 FR 11037
Japanese METI	ENCS No.: 5-6368
China inventory	Listed
Philippines	Listed in PICCS

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16. Other information

This data sheet contains changes from the previous version in section(s)

3, 5, 7, 8, 9, 14

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product.

This information has been prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product.

Additionally, if this Material Safety Data Sheet is more than three years old, you should contact Clearon at the phone number listed below to make certain that this sheet is current.

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

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End of safety data sheet