

MATERIAL SAFETY DATA SHEET

Product Name	Bromblend 99	
Product id	8429	
Revision date	10/02/2008	Revision: 4
Supersedes	30/05/2006	

1. Identification of the substance & the company

Chemical name	A blend
Type of product and use	A microbiocidal, bactericide, fungicide, algicide and slimicide, for treating industrial, recirculating cooling water and once-through cooling water systems
Supplier	Clearon Corp. 95 MacCorkle Ave. SW, South Charleston, WV 25303 , USA Tel: (304) 746-3000
Emergency Telephone	Chemtrec (800)424-9300

2. Hazards identification

Emergency overview	<i>White to off-white tablet with faint halogenous odour Corrosive Causes irreversible eye damage and skin burns Eye contact may cause loss of vision Irritating to nose and throat May be fatal if inhaled Harmful if absorbed through skin or swallowed</i>
Potential Health Effects:	
- Eye Contact	Corrosive May cause temporary or permanent eye damage.
- Skin contact	Exposure to wet skin may cause severe irritation. May cause skin sensitization
- Inhalation	Irritant to upper respiratory tract. Shortness of breath, headache and nausea.
Potential environmental effects	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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.

MATERIAL SAFETY DATA SHEET

Product Name Bromoblend 99
Product id 8429
Revision date 10/02/2008
Supersedes 30/05/2006

Revision: 4

3. Composition / information on ingredients

Components	CAS No.	Weight %
Trichloroisocyanuric Acid	87-90-1	30
Bromochloro-5,5-dimethylhydantoin	32718-18-6	70

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 advise.

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 advise.

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 advise.

Ingestion Call poison control center, or doctor immediately for treatment advise.
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.

Note to physician Probable mucosal damage may contraindicate the use of gastric lavage

MATERIAL SAFETY DATA SHEET

Product Name Bromoblend 99
Product id 8429
Revision date 10/02/2008
Supersedes 30/05/2006

Revision: 4

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.

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

Unusual fire and explosion hazards Oxidizing agent.
Dust may form a weak explosive mixture with air (class St1), but is not sensitive to ignition from electrostatic discharges.
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 :

MATERIAL SAFETY DATA SHEET

Product Name **Bromoblend 99**
Product id 8429
Revision date 10/02/2008
Supersedes 30/05/2006

Revision: 4

8. Exposure controls / personal protection

Components	ACGIH-TLV Data	OSHA (PEL) Data
Trichloroisocyanuric Acid 87-90-1	Not determined	Not determined
Bromochloro-5,5-dimethylhydantoin 32718-18-6	Not determined	Not determined

Manufacturer's TLV-TWA Recommendation 0.1 mg/m³ (for BCDMH powder)

Ventilation requirements Use local exhaust as necessary, especially under dusty conditions.

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 None
Auto-ignition temperature Not applicable
Vapour pressure Not applicable under standard conditions
Vapor density Not applicable under standard conditions
Evaporation rate (ether=1) Not applicable under standard conditions
Solubility:
 - **Solubility in water** 0.49 g/100ml at 29.6°C
Density 1.618 g/mL
Decomposition temperature >160°C

MATERIAL SAFETY DATA SHEET

Product Name Bromoblend 99
Product id 8429
Revision date 10/02/2008
Supersedes 30/05/2006

Revision: 4

10. Stability and reactivity

Stability Stable under normal conditions

Materials to avoid Oxidizing agents Bases
Reducing agents, COMBUSTIBLE ORGANIC MATERIALS
10% monoammonium phosphate solution

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

Hazardous decomposition products CO, HBr, Cl₂, NO_x, HCl, CO₂

Hazardous polymerization Will not occur

11. Toxicological information

Acute toxicity:
- Rat oral LD50 519 mg/kg
- Rat dermal LD50 > 2000 mg/kg
- Dermal irritation (rabbit) Corrosive

Dermal sensitization Sensitizer
(test conducted on the main ingredient)

Chronic toxicity Not available

Mutagenicity Mutagenicity tests were conducted on the main ingredient;
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

Note: The toxicological data refer to the main ingredient

Aquatic toxicity :

MATERIAL SAFETY DATA SHEET

Product Name Bromoblend 99
Product id 8429
Revision date 10/02/2008
Supersedes 30/05/2006

Revision: 4

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

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

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

15. Regulatory information

USA This product is subject to registration under FIFRA

- **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.

MATERIAL SAFETY DATA SHEET

Product Name	Bromoblend 99	
Product id	8429	
Revision date	10/02/2008	Revision: 4
Supersedes	30/05/2006	

- Waste Classifications 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. Not listed under CERCLA

Canada This product is subject to registration under PMRA

EU All the ingredients in this preparation are reported in EINECS

Japan Listed in ENCS

China inventory Listed

Philippines Listed in PICCS

16. Other information

This data sheet contains changes from the previous version in section(s)
3, 5, 7, 8, 9, 14

Further information

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.

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, Clearon Corp. 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 Clearon Corp. 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 MSDS and the English version of it, the English version shall prevail.

MATERIAL SAFETY DATA SHEET

Product Name Bromoblend 99
Product id 8429
Revision date 10/02/2008
Supersedes 30/05/2006

Revision: 4

Prepared by HEALTH, SAFETY & ENVIRONMENT DEPARTMENT
CLEARON CORPORATION
95 MacCorkle Ave., S.W.
South Charleston, WV 25303
USA
Phone number: (304) 746-3000

End of safety data sheet