

## MATERIAL SAFETY DATA SHEET

Product Name **Biobrom C - 100G**  
Product id 8341G-US  
Revision date 28/09/2010  
Supersedes 13/02/2008

Revision: 6

### 1. Identification of the substance & the company

Chemical name 2,2-Dibromo-3-nitropropionamide

Synonym(s) DBNPA

Chemical formula  $C_3H_2ON_2Br_2$

Chemical family Halogenated cyanoacetamide

Molecular weight 241.84

Type of product and use A microbiocidal bactericide, fungicide, algicide and slimicide, in treating industrial cooling water systems and pulp & paper mills.

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 *White to off-white granules*  
*Corrosive*  
*Causes severe burns of eyes*  
*Irritating to nose and throat*  
*May be fatal if swallowed*  
*May burn the skin*

**Potential Health Effects:**

- Eye Contact Corrosive

- Skin contact Irritant  
May cause skin sensitization

- Inhalation Irritant to upper respiratory tract. In severe cases pulmonary oedema may be developed

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**- Ingestion** Corrosive by ingestion  
Abdominal pain, nausea, vomiting and diarrhea

**NFPA Ratings (Scale 0-4)** Health = 3, Fire = 0, Reactivity = 1.

**HMIS Ratings (Scale 0-4)** Health = 3, Fire = 0, Reactivity = 0

### 3. Composition / information on ingredients

Components	CAS No.	Weight %
2,2-Dibromo-3-nitrilopropion amide	10222-01-2	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 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.

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### 5. Fire - fighting measures

**Suitable extinguishing media**        Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.  
  
**Fire fighting procedure**                Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode.  
  
**Unusual fire and explosion hazards**        When heated to decomposition, may release poisonous and corrosive fumes.

### 6. Accidental release measures

**Personal precautions**                    Use dust respirator, rubber gloves and chemical safety goggles  
  
**Methods for cleaning up**                Sweep up, place in a bag and hold for waste disposal or possible re-use  
     Ventilate area and wash spill site after material pickup is complete.

### 7. Handling and storage

**Handling**                                    Keep containers tightly closed. Avoid producing or diffusing dust into the air.  
  
**Storage**                                      Store in a dry, cool, well-ventilated and shaded area, away from heat sources away from incompatible materials (see "materials to avoid").

### 8. Exposure controls / personal protection

**Exposure Limits :**

Components	ACGIH-TLV Data	OSHA (PEL) Data
2,2-Dibromo-3-nitrilopropion amide 10222-01-2	Not determined	Not determined

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**Note** The product was tested for "Particle size distribution". Results showed that it is non-inhalable.

**Manufacturer's TLV-TWA Recommendation** 0.25 mg/m<sup>3</sup>

**Ventilation requirements** Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

**Personal protective equipment:**

- **Respiratory protection** Approved respirator
- **Hand protection** Protective 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**

<b>Appearance</b>	White to off-white granules
<b>Boiling point/range</b>	Not applicable (decomposes)
<b>Melting point/range</b>	123 - 125°C
<b>Flash point</b>	None
<b>Auto-ignition temperature</b>	Not applicable
<b>Vapour pressure</b>	8.25x10 <sup>(-4)</sup> mmHg (25°C)
<b>Evaporation rate (ether=1)</b>	Not applicable under standard conditions
<b>Vapor density</b>	Not applicable under standard conditions
<b>Viscosity</b>	Not applicable
<b>Solubility:</b>	
- <b>Solubility in water</b>	17±0.05 g/l at 25.7°C
- <b>Solubility in other solvents</b>	acetone - 35 g/100g ethanol - 25 g/100g dimethyl formamide - 120 g/100g polyethylene glycol (Mw 200) - 120 g/100g
<b>Specific gravity</b>	2.375 (21°C)
<b>pH</b>	Not determined
<b>Decomposition temperature</b>	190°C
<b>Partition coefficient (n-octanol/water)</b>	Log Kow - 6.3
<b>Explosive properties</b>	Not explosive
<b>Oxidising properties</b>	Not oxidising
<b>Particle size:</b>	Non- inhalable

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### 10. Stability and reactivity

<b>Stability</b>	Stable under normal conditions.
<b>Materials to avoid</b>	Oxidizing agents, reducing agents
<b>Conditions to avoid</b>	Keep away from light and heat Heating above decomposition temperature
<b>Hazardous decomposition products</b>	Br <sub>2</sub> , HBr, CNBr, NO <sub>x</sub> , C <sub>2</sub> H <sub>5</sub> Br, CH <sub>3</sub> Br
<b>Hazardous polymerization</b>	Will not occur

### 11. Toxicological information

<b>Acute toxicity:</b>	
- Rat oral LD <sub>50</sub>	308 mg/kg
- Rat dermal LD <sub>50</sub>	>2000 mg/kg
- Rat inhalation LC <sub>50</sub>	0.32 mg/l/4 hour (powder)
- Eye irritation (rabbit)	Corrosive
- Dermal irritation (rabbit)	Moderate irritant
<b>Dermal sensitization</b>	Sensitizer
<b>Sub-chronic toxicity:</b>	Sub-chronic toxicity:
- NOEL	5 mg/kg/day (13 weeks oral, rat)
<b>Chronic toxicity</b>	Not available
<b>Mutagenicity</b>	Not mutagenic by the Ames Test
<b>Genotoxicity</b>	Not clastogenic in chromosome aberration test with Chinese hamster cells. Not clastogenic in chromosome aberration test with Human lymphocytes. Did not induce DNA repair synthesis in the hepatocytes of male rats in vitro.
<b>Carcinogenicity</b>	Not classified by IARC Not included in NTP 11th Report on Carcinogens
<b>Reproductive toxicity</b>	In a 2-generation study in rats, the NOEL for reproduction parameters was ≥30 mg/kg/day.
<b>Teratogenicity</b>	Not teratogenic. The NOAEL (for fetal toxicity in rabbits) = 10 mg/kg/day.

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### 12. Ecological information

**Aquatic toxicity :**

- 96 Hour-LC50, Fish 2.3 mg/l (Rainbow trout)  
3.4 mg/l (Sheepshead minnow)  
2.3 mg/l (Bluegill sunfish)

- 48 Hour-EC50, Daphnia magna 0.86 mg/l

**Marine Invertebrate**

0.72 mg/l (Mysid shrimp, 96h)  
0.37 mg/l (Eastern oyster, 96h)

**Avian toxicity:**

- Oral LD50, Bobwhite quail 354 mg/kg  
- Dietary LC50, Mallard duck > 5620 ppm  
- Dietary LC50, Bobwhite quail > 5620 ppm

Germany, water endangering classes (WGK) 3

### 13. Disposal considerations

**Waste disposal**

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.  
Observe all federal, state and local environmental regulations when disposing of this material.

### 14. Transportation information

UN No. 3077

DOT Proper shipping name: Environmentally hazardous substance, solid, n.o.s (2,2-dibromo-3-nitrilopropionamide)  
Class: 9 - Miscellaneous Hazardous Material  
Label: 9  
Packing Group: III  
Marking: Marine Pollutant

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**IMO** Proper shipping name: Environmentally hazardous substance, solid, n.o.s (2,2-dibromo-3-nitrilopropionamide)  
 Class: 9 - Miscellaneous Dangerous Substances and Articles  
 Label: 9  
 Packing Group: III  
 Marking: Marine Pollutant

**ICAO/IATA** Proper shipping name: Environmentally hazardous substance, solid, n.o.s (2,2-dibromo-3-nitrilopropionamide)  
 Class: 9  
 Hazard label(s): Miscellaneous  
 Packing group: III

**15. Regulatory information**

**USA** This product is registered under FIFRA.  
 Reported in the EPA TSCA Inventory (Acetamide, 2,2-dibromo-2-cyano-)

**- SARA 313** On October 27, 1995, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxics Release Inventory reports are required for 2,2-dibromo-3-nitrilopropionamide until the stay is removed.

**- SARA (311, 312)** This product is categorized as an immediate and delayed health hazard.

**- Workplace Classification** This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).

**Canada** Listed in NDSL

**- Cepa** Listed

**EU**

**EC No.** 233-539-7

**Japan** ENCS No. 2-2795  
 ISHL No. 2-2795

**Australia** Listed in AICS

**New Zealand Inventory** Listed in NZIoC

**China inventory** Listed

**Korea** Listed in the Korea Existing Chemicals Inventory (KECI), number KE-09944

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<b>Philippines</b>	Listed in PICCS
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### 16. Other information

**This data sheet contains changes from the previous version in section(s)**  
2&3 (ROW), 5, 9

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**