

MATERIAL SAFETY DATA SHEET

Product Name **Biobrom C - 105 L**
Product id 8341-5
Revision date 17/10/2007
Supersedes 17/08/2004

Revision: 3

1. Identification of the substance & the company

Chemical name 2,2-Dibromo-3-nitropropionamide preparation
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. Composition / information on ingredients

Components CAS	Weight %	ACGIH-TLV Data	OSHA (PEL) Data
2,2-Dibromo-2-cyano- acetamide 10222-01-2	5.5	Not determined	Not determined
Water 7732-18-5	24.7	Not determined	Not determined
Polyethylene glycol 25322-68-3	69.6	Not determined	Not determined

3. Hazards identification

Emergency overview *Corrosive*
 Causes irreversible eye damage
 Eye contact may cause loss of vision
 Harmful if swallowed, inhaled or absorbed through the skin

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

HMIS Ratings (Scale 0-4) Health = 2, Fire = 1, Reactivity = 0.

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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 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

5. Fire - fighting measures

Flash point	Not available
Flammable/Explosion limits	Not available
Auto-ignition temperature	Not available
Suitable extinguishing media	Dry powder, carbon dioxide or water spray
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 of Br ₂ , HBr and NO _x .

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6. Accidental release measures

Personal precautions Wear self-contained breathing apparatus in positive pressure mode.

Methods for cleaning up Avoid access to streams, lakes or ponds. Absorb on sand or vermiculite and place in closed container for disposal. Decontaminate spill area with 10% sodium bicarbonate solution.
Absorb decontaminated solution with sand or vermiculite.
Sweep up, place in a suitable container and hold for waste disposal.
Ventilate area and wash spill site after material pickup is complete.

7. Handling and storage

Handling Keep containers tightly closed.
Avoid bodily contact.

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

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

Personal protective equipment:

- **Respiratory protection** Approved respirator
- **Hand protection** Rubber gloves
- **Eye protection** Chemical safety goggles or face shield with safety glasses.
- **Skin and body protection** Body covering clothes and boots

Hygiene measures Safety shower and eye bath should be provided. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

9. Physical and chemical properties

Appearance Clear, yellow to amber liquid

Melting point/range Not available

Boiling point/range >70°C (decomposes)

Vapour pressure Not available

Vapor density >1

Evaporation rate (ether=1) <1

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Solubility:
- Solubility in water Soluble
Density 1.12 g/cc
Decomposition temperature > 70°C

10. Stability and reactivity

Stability Stable under normal conditions
Materials to avoid Oxidizing agents, reducing agents and bases
Conditions to avoid Exposure to light
Heating above decomposition temperature
Hazardous decomposition products Br₂, HBr, NO_x
Hazardous polymerization Will not occur

11. Toxicological information

Note: The toxicological data presented below are the results of studies conducted on an active ingredient 2,2-Dibromonitripropionamide, unless otherwise specified

Acute toxicity:
- Rat oral LD50 2860 mg/kg (for biobrom C-105 L)
- Rat inhalation LC50 0.32 mg/l/4 hour
- Eye irritation (rabbit) Corrosive
- Dermal irritation (rabbit) Moderate irritant (for biobrom C-105L)

Dermal sensitization Not a sensitizer (for biobrom C-105L)

Sub-chronic toxicity:
- NOEL 5 mg/kg/day (13 weeks oral, rat)

Chronic toxicity Not available

Mutagenicity Not mutagenic by the Ames Test

Genotoxicity Did not induce DNA repair synthesis in the hepatocytes of male rats in vitro.
Not clastogenic in chromosome aberration test with Human lymphocytes.
Not clastogenic in chromosome aberration test with Chinese hamster cells.

Carcinogenicity Not classified by IARC
Not included in NTP 11th Report on Carcinogens

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Reproductive toxicity In a 2-generation study in rats, the NOEL for reproduction parameters was ≥ 30 mg/kg/day.

Teratogenicity Not teratogenic. The NOAEL (for fetal toxicity in rabbits) = 10 mg/kg/day.

12. Ecological information

Note: The environmental toxicity data mentioned below are from studies conducted on active ingredient 2,2-Dibromo-3-nitrilopropionamide.

Aquatic toxicity :

- 96 Hour-LC50, Fish 2.3 mg/l (Rainbow trout)
3.4 mg/l (Sheepshead minnow)
- 48 Hour-EC50, Daphnia magna 2.3 mg/l (Bluegill sunfish)
0.86 mg/l
- Marine Invertebrate** 0.72 mg/l (Mysid shrimp, LC50 96h)
0.37 mg/l (Eastern oyster, LC50 96h)

Avian toxicity:

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

13. Disposal considerations

Waste disposal Observe all federal, state and local environmental regulations when disposing of this material

14. Transportation information

DOT Not regulated
(for non bulk)

15. Regulatory information

USA This product is subject to registration under FIFRA
Reported in the EPA TSCA Inventory (Acetamide, 2,2-dibromo-2-cyano-)

Canada Ingredients are listed in DSL or NDSL

EU Reported in EINECS

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15. Regulatory information

Japan	Listed in ENCS
Australia	Listed in AICS
New Zealand Inventory	Listed in NZIoC
China inventory	Listed
Korea	Listed in the Korea Existing Chemicals Inventory (KECI)
Philippines	Listed in PICCS

16. Other information

This data sheet contains changes from the previous version in section(s)
11, 14, 15, 16

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