SAFETY DATA SHEET

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

Product name	**BROMIcharge**
Product id	2270BC
Revision date	16/03/2023

Revision: 1

1. Identification of the substance & the company

Chemical name Sodium bromide

Chemical formula NaBr

Chemical family Inorganic bromide

Type of product and use Spa disinfectant

Supplier
Gecko Alliance Group
450 des Canetons, Québec, QC, Canada
G2E 5W6
Tel: 1.800.78.GECKO, (418) 872-4411
Email: techsupport@geckoal.com

Emergency Telephone
Chemtrec: (800) 424-9300
Medical: PROSAR 1-888-875-1685 (24HRS)

2. Hazards identification

GHS classification Not Classified

Labels and other form of warning Not classified

3. Composition / information on ingredients

Components	CAS No.	Weight %
Sodium Bromide	7647-15-6	99

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

None known

Note to physician No specific antidote.
Treat symptomatically and supportively.
Probable mucosal damage may contraindicate the use of gastric lavage.

5. Fire - fighting measures

Suitable extinguishing media Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.

Unusual fire and explosion hazards Will decompose from ca. 800°C releasing poisonous and corrosive fumes of hydrogen bromide and sodium oxide

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 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 reuse Ventilate area and wash spill site after material pickup is complete. Avoid raising dust.

Environmental precautions Prevent entry into sewers and watercourses

7. Handling and storage

Handling Avoid bodily contact. Keep containers tightly closed.

Storage Keep in a well-ventilated place away from incompatible materials (see "materials to avoid").

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8. Exposure controls / personal protection

Exposure Limits :

Components	ACGIH-TLV Data	OSHA (PEL) Data
Sodium Bromide 7647-15-6	Not determined	Not determined

Ventilation requirements Provide adequate ventilation.

Personal protective equipment:

- **Respiratory protection** In case of significant or accidental dust emissions, dust mask should be worn
- **Hand protection** Protective gloves
- **Eye protection** Chemical safety goggles
- **Skin and body protection** Safety shoes

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, odourless, crystalline solid
Melting point/range	755°C
Boiling point/range	1390°C
Flash point	None
Evaporation rate (ether=1)	Not applicable under standard conditions
Flammable/Explosion limits	Not flammable
Vapor pressure	1 mmHg (806°C)
Vapor density	Not applicable under standard conditions
Solubility:	
- Solubility in water	94.6 gr/100ml at 25°C
- Solubility in other solvents	ethanol: 95%: 7 g/100g at 25°C methanol: 14.8 g/100g at 25°C
Partition coefficient (n-octanol/water)	Not applicable since this material is almost completely soluble in water.
Auto-ignition temperature	Not applicable
Decomposition temperature	ca. 800°C
Viscosity	Not applicable
Specific gravity	3.203
Explosive properties	Not explosive
Oxidising properties	Not oxidising

10. Stability and reactivity

Reactivity	Reacts explosively with bromine trifluoride .
Stability	Stable under normal conditions The powder product tends to cake under normal storage conditions.
Possibility of hazardous reactions	Not expected to occur
Conditions to avoid	Heating above decomposition temperature.
Materials to avoid	Strong oxidants. Heavy metal salts. Strong acids.
Hazardous decomposition products	Hydrogen bromide and sodium oxide

11. Toxicological information

Likely Routes of Exposure	Skin Eye contact Inhalation Ingestion
Acute toxicity:	
- Rat oral LD50	4200 mg/kg
- Rat dermal LD50	>2000 mg/kg
- Dermal irritation (rabbit)	Not irritant
- Eye irritation (rabbit)	Slightly irritant.
Dermal sensitization	Not a sensitizer
Chronic toxicity	Repeated skin contact may cause dermatitis. Repeated oral intake of bromides (>9 mg/kg body weight/day) may affect the central nervous system. Warning symptoms include mental dullness, slurred speech, weakened memory, apathy, anorexia, constipation, drowsiness and loss of sensitivity to touch and pain.
Mutagenicity	Does not induce DNA repair in cultured human epithelioid cells. Not clastogenic in human lymphocytes metaphase analysis. Not mutagenic by the Ames Test.
Carcinogenicity	Not classified by IARC Not included in NTP 13th Report on Carcinogens

Reproductive toxicity	Sodium bromide has been shown to cause embryo-fetal toxicity and malformations in rats at dose levels which also produce maternal toxicity. The No-Observed Effect Level (NOEL) is 100 mg/kg/day, and the Acceptable Daily Intake (ADI) for sodium bromide from food and drinking water in humans is 1 mg/kg/day. Comparable high doses of sodium chloride (table salt) similarly cause malformations, embryo-fetal toxicity, and maternal toxicity in mice.
Teratogenicity	In the oral gavage pre-natal developmental toxicity study in the Rabbit, there were no obvious effects of maternal treatment on the survival, growth or development of the offspring at any of the dosages investigated. The No Observed Effect Level (NOEL) for the developing conceptus was considered to be 250 mg/kg/day.
Aspiration hazard	Not expected to occur

12. Ecological information

Aquatic toxicity :

- 96 Hour-LC50, Fish	>1000 mg/l (rainbow trout) >1000 mg/l (bluegill sunfish)
- 48 Hour-EC50, Daphnia magna	>1000 mg/l
Avian toxicity:	
- Oral LD50, Bobwhite quail	>2250 mg/kg
- Dietary LC50, Mallard duck	>5633 ppm
- Dietary LC50, Bobwhite quail	>5633 ppm
Toxicity to micro-organisms	Activated sewage sludge respiration inhibition test: EC50 > 1000 mg/l (3 hours). NOEC was 1000 mg/l (3 hours)
Persistence and degradability	Not relevant for inorganic salts
Bioaccumulative potential	Bioaccumulation is not likely to occur since this material is highly soluble in water.
Environmental fate	NaBr is an inorganic salt, which fully dissociates in aquatic environment to bromide and sodium ions. It also undergoes degradation in soil to bromide ion (no further degradation or biodegradation will occur).
Mobility in soil	Not relevant for inorganic salts

13. Disposal considerations

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

Disposal of Packaging Dispose of in a safe manner in accordance with local/national regulations.

14. Transportation information

DOT Not regulated

IMDG Not regulated

ICAO/IATA Not regulated

15. Regulatory information

USA This product is registered under FIFRA
Reported in the EPA TSCA Inventory.

- EPA Registration no. 8622-69

- Emergency overview in accordance to EPA Master Label CAUTION
Harmful if swallowed or absorbed through skin
This product is toxic to fish and aquatic organisms.

Canada Listed in DSL

WHMIS hazard class D2A Very toxic material causing other toxic effects

EU Reported in EINECS

EC No. 231-599-9

Japan ENCS no. 1-113
ISHL no. 1-113

Australia Listed in AICS

New Zealand Inventory Listed in NZIoC

China
- China inventory Listed in IECSC

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Korea	Listed in the Korea Existing Chemicals Inventory (KECI), number KE-31368
Philippines	Listed in PICCS

16. Other information

This data sheet contains changes from the previous version in section(s)
1, 2, 4, 10, 15

Health, Safety & Environment Policy
We will strive to ensure that our operations and products meet the needs of the present global community without compromising the ability of future generations to meet their needs We accept that the success of our business is dependent on the supply of products and services that will benefit society whilst ensuring human safety and protection of the environment and natural resources Within the framework of our commitment to the Responsible Care program, we will provide a healthy and safe work environment for employees and will responsibly manage our products at all stages of their life cycle in order to protect human health and the environment whilst maintaining high production standards of operation

TO MEET THIS COMMITMENT WE WILL: Comply with or exceed applicable national and international regulatory requirements and other requirements to which we subscribe Communicate openly and actively encourage dialogue with employees, customers and community concerning our products and operations Implement documented management systems consistent with and for promotion of the Responsible Care ethics

Develop and supply products that can be manufactured, transported, used and disposed of safely whilst best meeting the needs of our customers Regularly assess, continually improve and responsibly manage health, safety and environmental risks associated with products and processes throughout their life-cycles Share knowledge and expertise with others and seek to learn from and incorporate improved practices into our own operations

Educate and train employees, contractors and customers to improve their HSE performance Communicate up-to-date information to enable our workers, customers and other interested parties to handle our products in a safe and environmentally responsible manner Endeavor to work with customers, suppliers, distributors and contractors to foster the safe use, transport and disposal of our chemicals Support Product Stewardship programs in cooperation with customers, distributors and transporters

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Prepared by

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End of safety data sheet