



MATERIAL SAFETY DATA SHEET

Product Name **Yellow Algae Remover**
Product id 2270Y
Revision date 20/12/2006 **Revision: 3**
Supersedes 01/12/2004

1. Identification of the substance & the company

Chemical name Sodium bromide
Chemical formula NaBr
Chemical family Inorganic bromide
Molecular weight 102.9
Type of product and use Pool algaecide
Supplier NAVA Water Products
95 MacCorkle Ave. SW, South Charleston, WV 25303 , USA
Tel: (304) 746-3000
Emergency Telephone Chemtrec (800)424-9300
Medical 1-800-420-9236

2. Composition / information on ingredients

Components CAS	Weight %	ACGIH-TLV Data	OSHA (PEL) Data
Sodium Bromide 7647-15-6	98-99.5	Not determined	Not determined

3. Hazards identification

Emergency overview *White, odourless, crystalline solid*
No adverse health effects in human are known under recommended use instructions

Potential Health Effects:

- Eye Contact Mild irritant
- Skin contact Not irritant to intact skin. Slightly irritant on prolonged contact to abraded skin.
- Inhalation Irritant to upper respiratory tract.
- Ingestion Abdominal pain, nausea and vomiting. May cause falling asleep, muscular incoordination and respiratory depression.

Chronic effects/Carcinogenicity Repeated skin contact may cause dermatitis.



MATERIAL SAFETY DATA SHEET

Product Name	Yellow Algae Remover	
Product id	2270Y	
Revision date	20/12/2006	Revision: 3
Supersedes	01/12/2004	

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	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.

5. Fire - fighting measures

Flash point	None
Flammable/Explosion limits	Not flammable
Auto-ignition temperature	Not applicable
Suitable extinguishing media	Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.
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	Will decompose from ca. 800°C releasing poisonous and corrosive fumes of hydrogen bromide and sodium oxide.

6. Accidental release measures

Personal precautions	Wear respirator, chemical safety goggles, rubber gloves and boots.
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.



MATERIAL SAFETY DATA SHEET

Product Name Yellow Algae Remover
Product id 2270Y
Revision date 20/12/2006
Supersedes 01/12/2004

Revision: 3

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").

8. Exposure controls / personal protection

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** 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

9. Physical and chemical properties

Appearance White granular powder or compacted solid, odourless

Melting point/range 755°C

Boiling point/range 1390°C

Vapour pressure 1 mmHg (806°C)

Vapor density Not applicable under standard conditions

Evaporation rate (ether=1) 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

Specific gravity 3.203

Decomposition temperature 800°C

Partition coefficient (n-octanol/water) Not applicable since this material is almost completely soluble in water.

10. Stability and reactivity

Stability The powder product tends to cake under normal storage conditions.



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10. Stability and reactivity

Materials to avoid Strong acids
Heavy metal salts
Strong oxidants
Reacts explosively with bromine trifluoride

Conditions to avoid Heating above decomposition temperature

Hazardous decomposition products Hydrogen bromide and sodium oxide

Hazardous polymerization Will not occur

11. Toxicological information

Acute toxicity:

- Rat oral LD50 4200 mg/kg
- Rabbit dermal LD50 >2000 mg/kg
- Eye irritation (rabbit) Slightly irritant
- Dermal irritation (rabbit) Not 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 11th 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.



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Product Name	Yellow Algae Remover	
Product id	2270Y	
Revision date	20/12/2006	Revision: 3
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12. Ecological information

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).
Aquatic toxicity :	
- 96 Hour-LC50, Fish	>1000 mg/l (rainbow trout)
	>1000 mg/l (bluegill sunfish)
- 48 Hour-EC50, <i>Daphnia magna</i>	>1000 mg/l
Avian toxicity:	
- Oral LD50, Bobwhite quail	>2250 mg/kg
- Dietary LC50, Mallard duck	>5633 ppm
- Dietary LC50, Bobwhite quail	>5633 ppm
Bioaccumulative potential	Bioaccumulation is not likely to occur since this material is highly soluble in water.
Germany, water endangering classes (WGK)	1

13. Disposal considerations

Waste disposal	Add into a large vessel containing water and drain into sewer with ample water. Avoid access to streams, lakes or ponds. Observe all federal, state and local environmental regulations when disposing of this material.
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14. Transportation information

DOT	Not regulated
IMO	Not regulated
ICAO/IATA	Not regulated

15. Regulatory information

USA	Reported in the EPA TSCA Inventory
Sara 313	Not listed



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Canada	Listed in DSL
WHMIS hazard class	D2A very toxic materials
EEC No.	231-599-9
Japanese METI	ENCS No.1-113
Australia	Listed in AICS
China inventory	Listed
Korea	Listed in ECL (KE-31368)
Philippines	Listed in PICCS
Switzerland	Giftklasse 3

16. Other information

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

1, 8, 9, 10, 15

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.

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End of safety data sheet