SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: SPAGUARD® BROMINATING CONCENTRATE
Product Use Description: Recreational Water Product
Chemical nature: Chlorinated Isocyanurates
Registration number: 5185-376
Company: Bio-Lab, Inc.
BioGuard
P.O. Box 300002
Lawrenceville, GA
30049-1002
Telephone: (800) 859-7946

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300, 703-527-3887
Poison Control Center (Medical) :: (877) 800-5553
Customer Care: 800-998-7946
For additional emergency telephone numbers see section 16 of the Safety Data Sheet.
Prepared by Product Safety Department
01/01/2014

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

<table>
<thead>
<tr>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: granules</td>
</tr>
</tbody>
</table>

Hazard Summary:
- Corrosive
- Oxidizer
- Causes serious eye damage.
- Causes skin burns.
- Harmful if swallowed.
- Harmful if absorbed through skin.
- Causes respiratory tract irritation.
- Avoid breathing dust or vapor.
- Do not get in eyes, on skin, or on clothing.

OSHA Hazards:
Potential Health Effects

Primary Routes of Entry: Skin contact, Inhalation, Ingestion, Eye contact

Aggravated Medical Condition: Respiratory disorders, Skin disorders

Inhalation: Harmful if inhaled. Causes respiratory tract irritation.

Skin: Harmful if absorbed through skin. Causes skin burns. On contact with moisture, this material readily hydrolyzes to acid which may result in burns if not promptly removed.

Eyes: Causes serious eye damage.

Ingestion: Harmful if swallowed.

Chronic Exposure: None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

<table>
<thead>
<tr>
<th>Component / CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Dichloro-S-Triazinetrione</td>
<td>82.5 %</td>
</tr>
<tr>
<td>2893-78-9</td>
<td></td>
</tr>
<tr>
<td>sodium bromide (Aerosol)</td>
<td>14.7 %</td>
</tr>
<tr>
<td>7647-15-6</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

First aid procedures

Inhalation: Remove to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a POISON CENTER or doctor/physician.

Skin contact: Remove contaminated clothing and shoes. Rinse immediately with plenty of water for at least 15 minutes. Call a POISON CENTER or doctor/physician.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a POISON CENTER or doctor/physician.

Ingestion: Call a physician or poison control centre immediately. 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.
Never give anything by mouth to an unconscious person.

Notes to physician
Treatment : Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties
Flash point : Remarks: None.

Fire fighting
Suitable extinguishing media : Flood with large volumes of water.
Unsuitable extinguishing media : Risk of violent reaction.
ABC powder
Dry chemical

Further information : Nitrogen trichloride can be generated slowly by the reaction of small quantities of water with a high concentration of this product. Nitrogen trichloride can present an explosion hazard. Immediately after a fire has been extinguished, check for wet or damp material. Any spilled material from burned or broken containers should be assumed contaminated. Neutralize to a non-oxidizing material for safe disposal. Do not attempt to re-close broken containers, even for movement to the disposal area. They should be left open to disperse any nitrogen trichloride that may form. Material which appears undamaged except for being damp on the outside, should be opened and inspected immediately. If the plastic liner (where applicable) of the container is damaged or the material is damp, the material should be chemically treated if allowable, to a non-oxidizing material for safe disposal. Bulging containers require extreme care. Contact the fire department.

Protective equipment and precautions for firefighters
Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Thoroughly decontaminate fire fighting equipment including all fire fighting wearing apparel after the incident.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Environmental precautions : Do not flush into surface water or sanitary sewer system.

Methods for containment / Methods for cleaning up : Using appropriate protective clothing and safety equipment, contain spilled material. Do not add water to spilled material.
Using clean dedicated equipment, sweep and scoop all spilled material, contaminated soil, and other contaminated material and place into clean dry containers for disposal.
Do not close containers containing wet or damp material. They should be left open to disperse any hazardous gases that may form.

Additional advice : Do not use floor sweeping compounds to clean up spills.
Do not transport wet or damp material. Treat recovered material as described in the section "Disposal considerations". Do not contaminate water, food or feed by storage or disposal or cleaning of equipment.

SECTION 7. HANDLING AND STORAGE

Handling

Handling procedures: Contains a strong oxidizing agent.
Avoid contact with skin, eyes and clothing.
Avoid breathing dust.
Avoid breathing vapors.
Do not mix with other chemicals.
Mix only with water.
Never add water to this product.
Always add product to large quantities of water.
Use only clean and dry utensils.
Do not add this product to any dispensing devices containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion.
Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion.
In case of contamination or decomposition, do not reseal container.
If possible, isolate container in open air or well-ventilated area.
Flood with large volumes of water.
Wash hands thoroughly with soap and water after handling and before eating, drinking or using tobacco.
Do not handle until all safety precautions have been read and understood.

Storage

Requirements for storage areas and containers: Store in original container.
Keep container closed when not in use.
Store in a cool, dry, well ventilated area away from heat or open flame.
Keep out of reach of children.
Keep away from animals.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Engineering measures

Engineering measures: Use with adequate ventilation.
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye protection: Safety glasses with side-shields
Hand protection: Wear rubber gloves.
Respiratory protection : A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Hygiene measures : Wash contaminated clothing before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form : granules
Colour : white
Odour : Faint Halogen.

Safety data
Flash point : Note: None.
Oxidizing properties : The substance or mixture is not classified as oxidizing.
pH : 4.5
Melting point/range : 464 °F (240 °C)
Note: Decomposes
Vapour pressure : not applicable
Density : 0.90 - 0.96 g/cm³
Water solubility : 250 g/l
Note: no data available
Partition coefficient: n-octanol/water
Viscosity, kinematic : Note: no data available
Relative vapour density : Note: not applicable

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Remarks: Moisture/high humidity.
Poor ventilation.
High temperatures.
Contamination

Materials to avoid : Remarks: Avoid contact with water on concentrated material in the container. Avoid contact with easily oxidizable material; ammonia, urea, or similar nitrogen containing compounds; inorganic reducing compounds; floor sweeping compounds; calcium hypochlorite; other swimming pool/spa chemicals in their concentrated form; alkalis. Avoid contact with all other chemicals.
Hazardous decomposition products: Note: Halogen containing gases Carbon oxides
Hazardous reactions: Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity sodium bromide (Aerosol): LD50: 4,200 mg/kg Species: rat

Acute inhalation toxicity Sodium Dichloro-S-Triazinetrione: LC50: 0.27 - 1.17 mg/l Exposure time: 4 h Species: rat

Acute dermal toxicity sodium bromide (Aerosol): LD50: > 2,000 mg/kg Species: rabbit

Skin irritation: Result: Corrosive Remarks: Causes skin burns. Direct contact with wet material or moist skin may cause severe irritation, pain and possibly burns.

Eye irritation: Remarks: Causes serious eye damage.

Sensitisation sodium bromide (Aerosol): Maximisation Test Species: guinea pig Classification: Did not cause sensitization on laboratory animals.

CMR effects sodium bromide (Aerosol): Mutagenicity: In vitro tests did not show mutagenic effects Teratogenicity: No effects on or via lactation Reproductive toxicity: No toxicity to reproduction

12. ECOLOGICAL INFORMATION

Toxicity to fish sodium bromide (Aerosol): LC50: 1,600 mg/l Exposure time: 96 h Species: Poecilia reticulata (guppy) flow-through test

Toxicity to daphnia and other aquatic invertebrates
### SECTION 1.3. TOXICITY TO ALGAE

**sodium bromide (Aerosol)**
- EC50: > 1,000 mg/l
- Exposure time: 48 h
- Species: Daphnia magna (Water flea)

### Toxicity to fish (Chronic toxicity)

**sodium bromide (Aerosol)**
- NOEC: 100 mg/l
- Exposure time: 28 d
- Species: Poecilia reticulata (guppy)

### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

**sodium bromide (Aerosol)**
- NOEC: 10 mg/l
- Exposure time: 21 d
- Species: Daphnia magna (Water flea)

### Bioaccumulation

**sodium bromide (Aerosol)**
- Remarks: Bioaccumulation is unlikely.

### Further information on ecology

- Toxic to aquatic organisms.
- Toxic to fish.
- Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### SECTION 13. DISPOSAL CONSIDERATIONS

#### Further information
- Dispose of waste material in compliance with all federal, state, and local regulations.
- Contact with incompatible materials could cause a reaction or fire.
- If these wastes cannot be disposed of by use according to label instructions, contact your Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. For registered pesticides, contact your State Pesticide Agency.
- Do not contaminate ponds, waterways or ditches with chemical or used container.
- Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor.
- Improper disposal of excess product, spray mixture or rinsate is a violation of Federal Law.

#### Contaminated packaging
- Do not re-use empty containers.
- Rinse thoroughly before discarding in trash.
Material Safety Data Sheet
SPAGUARD® BROMINATING CONCENTRATE

Offer rinsed packaging material to local recycling facilities.

SECTION 14. TRANSPORT INFORMATION

DOT
UN number : 1759
Description of the goods : Corrosive solids, n.o.s.
(SODIUM DICHLORO-S-TRIAZINETRIONE)
(SODIUM DICHLORO-S-TRIAZINETRIONE)
Class : 8
Packing group : III
ERG Code : 154

IATA
UN number : 1759
Description of the goods : Corrosive solid, n.o.s.
(SODIUM DICHLORO-S-TRIAZINETRIONE)
(SODIUM DICHLORO-S-TRIAZINETRIONE)
Class : 8
Packing group : III
Labels : 8
Environmentally hazardous : yes

IMDG
UN number : 1759
Description of the goods : CORROSIVE SOLID, N.O.S.
(SODIUM DICHLORO-S-TRIAZINETRIONE)
(SODIUM DICHLORO-S-TRIAZINETRIONE)
Class : 8
Packing group : III
EmS Number 1 : F-A
EmS Number 2 : S-B
Marine pollutant : yes
SODIUM DICHLORO-S-TRIAZINETRIONESODIUM DICHLORO-S-TRIAZINETRIONE
Environmentally hazardous : yes
SODIUM DICHLORO-S-TRIAZINETRIONESODIUM DICHLORO-S-TRIAZINETRIONE

Not regulated by DOT and TDG if shipped or transported in packaging less than 400KG by road and/or rail.
Not recommended for shipment by air
Not regulated by DOT and TDG if shipped or transported in packaging less than 400KG by road and/or rail.
Limited Quantity exemption possible
ORM-D Consumer Commodity exemption possible
SECTION 15. REGULATORY INFORMATION

OSHA Hazards: This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SARA 311/312 Hazards: Acute Health Hazard
Reactivity Hazard

The components of this product are reported in the following inventories:
EINECS On the inventory, or in compliance with the inventory
TSCA On TSCA Inventory
AICS On the inventory, or in compliance with the inventory
DSL All components of this product are on the Canadian DSL list.
ENCS On the inventory, or in compliance with the inventory
KECI On the inventory, or in compliance with the inventory
PICCS On the inventory, or in compliance with the inventory
IECSC On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information
HMIS Classification: Health hazard: 3
Flammability: 0
Physical hazards: 1
PPI: Ask supervisor or safety specialist for handling instructions
Material Safety Data Sheet

SPAGUARD® BROMINATING CONCENTRATE

Version: 1.2  Revision Date: 01/01/2014  Print Date: 03/10/2014

NFPA Classification:
- Health hazard: 3
- Fire Hazard: 0
- Reactivity Hazard: 1
- Specific hazards: OX Class 2 Oxidizer.

Other Emergency Phone Number

| Latin America: | Brazil           | +55 113 711 9144 |
|               | All other countries | +44 (0) 1235 239 670 |
| Mexico:       |                  | +52 555 004 8763 |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.