

Material Safety Data Sheet

BIOGUARD® MAINTAIN SMART SHOCK®

Version: 1.2

Revision Date: 01/01/2014

Print Date: 03/05/2014

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: *BIOGUARD® MAINTAIN SMART SHOCK®*

Product Use Description: Recreational Water Product

Synonyms: BioGuard Maintain Smart Shock

Chemical nature: Preparation

Registration number: 5185-493

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

Danger

Form: granules Colour: blue green to blue Odour: Chlorine

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

OSHA Hazards : THIS MATERIAL IS HAZARDOUS UNDER THE CRITERIA OF THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD 29CFR 1910.1200.

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Potential Health Effects

- Primary Routes of Entry : Inhalation
Eye contact
Skin contact
Ingestion
- Inhalation : Causes respiratory tract irritation.
- Skin : Harmful if absorbed through skin.
Causes skin irritation.
On contact with moisture, this material readily hydrolyzes to acid which may result in burns if not promptly removed.
May cause allergic skin reaction.
- Eyes : Causes serious eye damage.
- Ingestion : May be fatal if swallowed.
- Chronic Exposure : This product contains a boron compound. This boron compound when fed to test animals at very high doses, has shown reproductive and developmental toxicity. When this product is used according to label directions, the boron compound in this product does not represent a practical risk to man.

Carcinogenicity:

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Component / CAS-No.	Weight percent
Sodium Dichloro-S-Triazinetrione 2893-78-9	63.05 %
sodium persulfate 7775-27-1	< 25 %
aluminium sulfate 10043-01-3	< 10 %
Boron salt Trade Secret	>= 7 - < 13 %
Zinc sulfate, heptahydrate 7446-20-0	< 5 %
copper citrate 10402-15-0	< 1 %

Available Chlorine: 39%., Copper derived from copper citrate.

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SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : Remove to fresh air.
Get medical attention immediately.
If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Skin contact : Take off all contaminated clothing immediately.
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Call a physician or poison control centre immediately.
Discard contaminated leather articles such as shoes and belt.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 30 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.
If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Never give anything by mouth to an unconscious person.
In case of spontaneous vomiting ensure that vomitus can drain freely to avoid risk of suffocation.

Notes to physician

- Treatment : Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : Remarks: not applicable

Fire fighting

- Suitable extinguishing media : Flood with large volumes of water.

- Unsuitable extinguishing media : ABC powder
Dry powder
Risk of violent reaction.

- Further information : Do not let fire burn.

Protective equipment and precautions for firefighters

- Specific hazards during firefighting : Under extreme heat (greater than 400F), this product will evolve noxious chlorine containing gases.

- 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.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Environmental precautions : Do not flush into surface water or sanitary sewer system.
- Methods for containment /
Methods for cleaning up : Clean-up methods - small spillage
In case of spills, scoop up and place product in pool or spa water, then flood spilled area with large volumes of water.
Clean-up methods - large spillage
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 : Avoid contact with skin, eyes and clothing.
Avoid breathing dust.
Avoid breathing vapors.
Avoid creating dust.
Do not mix with other chemicals.
Mix only with water.
Never add water to this product.
Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion.
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.
In case of contamination or decomposition, do not reseal container.
If possible, isolate container in open air or well-ventilated area.
Always add product to large quantities of water.
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 : Keep this product dry in its original container.
Keep containers tightly closed in a dry, cool and well-ventilated place.
For bags: Store dry product in its original unopened bag until use. For partially used bags, fold over top of bag and secure with adhesive tape.
For bottles: Store dry product in original tightly closed container when not in use.

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Keep out of reach of children.
Keep away from animals.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components with workplace control parameters

Components / CAS-No.	Value / Basis / Update	Control parameters	Further information
aluminium sulfate 10043-01-3	TWA NIOSH REL 2005-09-01	2 mg/m ³	
Boron salt Trade Secret	TWA OSHA P0 1989-01-19	10 mg/m ³	
	TWA ACGIH 2007-01-01	2 mg/m ³	
	STEL ACGIH 2007-01-01	6 mg/m ³	
	TWA NIOSH REL 2005-09-01	1 mg/m ³	
copper citrate 10402-15-0	TWA NIOSH REL 2005-09-01	1 mg/m ³	

Available Chlorine: 39%.

Copper derived from copper citrate.

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 : No personal respiratory protective equipment normally required.

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If product is used in an area with poor ventilation and mist or vapor is expected, a respirator that meets OSHA/ANSI standards may be required.

Hygiene measures : Wash contaminated clothing before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : granules
Colour : blue green
to
blue
Odour : Chlorine

Safety data

Flash point : Note: not applicable
pH : 4.6 - 4.8
Note: 1% Solution
Melting point/range : 522 °F (272 °C)
Note: Decomposes
Boiling point/boiling range : Note: not applicable
Vapour pressure : no data available
Density : 1.02 - 1.04 g/cm³
Water solubility : 250 g/l
Note: no data available
Partition coefficient: n-
octanol/water : Note: no data available
Viscosity, kinematic : Note: not applicable
Relative vapour density : Note: no data available

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.

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Hazardous decomposition products : Note: Chlorine containing gases can be produced.
Sulphur oxides
nitrogen oxides (NOx)
Carbon oxides

Note: Hydrogen cyanide

Hazardous reactions : Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50: 486 mg/kg
Species: rat

Acute inhalation toxicity : Remarks: Direct contact with wet material or moist skin may cause severe irritation, pain and possibly burns.

Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: rat

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

Eye irritation : Remarks: Risk of serious damage to eyes.

Sensitisation : Remarks: May cause sensitization of susceptible persons.

Toxicology Assessment

CMR effects : Mutagenicity:
No mutagenic data are available for the product, although aluminum sulfate, a component of this product, has been shown to cause mutagenic effects in the mammalian chromosomal aberration test in human lymphocytes, but is not mutagenic in other in vitro tests. There is no indication that aluminum sulfate is carcinogenic or affects fertility. When this product is used according to label directions, the aluminum sulfate in this product does not present a practical health risk. (EN)

12. ECOLOGICAL INFORMATION

Toxicity to fish sodium persulfate : LC50: 771 mg/l
Exposure time: 96 h
Species: Lepomis macrochirus (Bluegill)
static test
aluminium sulfate : LC50: 37 mg/l

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Exposure time: 96 h

Species: Gambusia affinis (Mosquito fish)
static test

LC50: 33.9 mg/l

Exposure time: 96 h

Species: Pimephales promelas (fathead minnow)
flow-through test

Toxicity to daphnia and other aquatic invertebrates

sodium persulfate : EC50: 133 mg/l

Exposure time: 48 h

Species: Daphnia magna (Water flea)

aluminium sulfate : LC50: ca. 6.57 mg/l

Exposure time: 48 h

Boron salt Trade Secret : > 100 mg/l

Exposure time: 48 h

Species: Daphnia magna (Water flea)

Toxicity to algae

Boron salt Trade Secret : > 100 mg/l

Exposure time: 72 h

Species: Algae

Bioaccumulation

aluminium sulfate : Remarks:

Bioaccumulation is unlikely.

Further information on ecology

Additional ecological information : Toxic to fish.

Toxic to aquatic organisms.

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.

Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor.

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.

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Do not contaminate ponds, waterways or ditches with chemical or used container.
Contact with incompatible materials could cause a reaction or fire. 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.
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, COPPER COMPOUNDS)
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, COPPER COMPOUNDS)
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, COPPER COMPOUNDS)
Class : 8
Packing group : III
EmS Number 1 : F-A
EmS Number 2 : S-B
Marine pollutant : yes
SODIUM DICHLORO-S-TRIAZINETRIONECOPPER COMPOUNDS
Environmentally hazardous : yes
SODIUM DICHLORO-S-TRIAZINETRIONE COPPER COMPOUNDS

Limited Quantity exemption possible
Not regulated by DOT and TDG if shipped or transported in packaging less than 400KG by road and/or rail.

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SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity : 5000 lbs

SARA 302 Reportable Quantity :

SARA 311/312 Hazards : Acute Health Hazard
Fire Hazard
Reactivity Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

SARA 302 Reportable Quantity :

SARA 304 Components : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : Zinc compound

California Prop. 65 Components : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

US.TSCA On the inventory, or in compliance with the inventory

DSL This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

AICS Not in compliance with the inventory

NZIoC On the inventory, or in compliance with the inventory

ENCS Not in compliance with the inventory

KECI Not in compliance with the inventory

PICCS Not in compliance with the inventory

IECSC Not in compliance with the inventory

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TSCA list Information

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
ZUS T12B

Not relevant

SECTION 16. OTHER INFORMATION

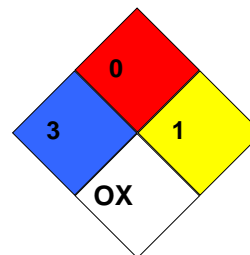
Further information

HMIS Classification

: Health hazard: 3
Flammability: 0
Physical hazards: 1
PPI:Ask supervisor or safety specialist for handling instructions

NFPA Classification

: Health hazard: 3
Fire Hazard: 0
Reactivity Hazard: 1
Specific hazards: OX Class 1
Oxidizer.



Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+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.