The recipient of this Safety Data Sheet is urged to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents and contractors of the information on this sheet,(2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name**:** BioGuard® Mainatin Smart Shock®

Product Use Description**:** Recreational Water Product

EPA Registration Number**:** 5185-493

Company**:**

Bio-Lab, Inc.
BioGuard
P.O. Box 300002
Lawrenceville, GA
30049-1002

Emergency telephone**:**

CHEMTREC (US Transportation) :
(800) 424-9300
(703) 527-3887
Poison Control Center (Medical) :
(877) 800-5553

Customer Service: (800) 859-7946

Prepared by: Product Safety Department
(US) +1 866-430-2775
(EU) +44 (0) 1753.603.000
Email: MSDSRequest@chemtura.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

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

Corrosive
Oxidizer
Causes severe eye damage.
Causes skin burns.
Causes respiratory tract irritation.
Harmful if absorbed through skin.
May be fatal if swallowed.

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

Avoid breathing dust or vapor.
Do not get in eyes, on skin, or on clothing.

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 severe 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.

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Component	CAS-No.	Concentration
Sodium dichloro-s-triazinetrione	2893-78-9	63.05 %
Inorganic salt		< 25 %
Trade Secret 001		< 10 %
Trade Secret 016		< 5 %
Proprietary additive 123		< 5 %
COPPER CITRATE	10402-15-0	< 1 %

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

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 CENTRE or doctor/physician.

Skin contact : Remove contaminated clothing and shoes.
Rinse immediately with plenty of water for at least 15 minutes.
Call a POISON CENTRE 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 5 minutes, then continue rinsing eye.
Call a POISON CENTRE 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.
Do not give anything by mouth to an unconscious person.

Notes to physician

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

SECTION 5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : not applicable

Protective equipment and precautions for firefighters

Suitable extinguishing media : Flood with large volumes of water.

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

Hazardous decomposition products : Chlorine containing gases can be produced.

Hazardous combustion products : Chlorine containing gases can be produced.

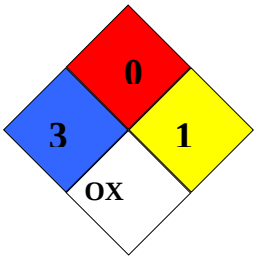
Further information : Do not let fire burn.

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

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

Further information

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



Additional advice : 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.

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

Advice on safe handling : 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 may 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 orginal tightly closed container when not in use.
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
Inorganic salt	TWA ; ACGIH 1996-05-18	0.1 mg/m3	1996 Adoption

Exposure Guidelines

Components with workplace control parameters

Components / CAS-No.	Value - Basis - Update	Control parameters	Further information
Trade Secret 016	TWA ; OSHA PO 1989-03-01	10 mg/m3	
Trade Secret 016	TWA ; ACGIH 2005-01-01	2 mg/m3	A4: The agent (mixture, or exposure circumstance) is not classifiable as to its carcinogenicity to humans. Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.
Trade Secret 016	STEL ; ACGIH 2005-01-01	6 mg/m3	A4: The agent (mixture, or exposure circumstance) is not classifiable as to its carcinogenicity to humans. Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.

Exposure Guidelines

Components with workplace control parameters

Components / CAS-No.	Value - Basis - Update	Control parameters	Further information
Trade Secret 001	TWA ; OSHA PO 1989-03-01	2 mg/m3	Calculated as Al
Trade Secret 001	TWA ; ACGIH 1994-09-01	2 mg/m3	Calculated as Alsoluble

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.
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 : not applicable

pH : 4.6 - 4.8
1% Solution

Melting point/range : 522 °F (272 °C)
Decomposes

Boiling point/boiling range : not applicable

Vapour pressure : Not Available

Density	:	1.02 - 1.04 g/cm3
Water solubility	:	250 g/l
Relative vapour density	:	Not Available

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	:	Moisture/high humidity. Poor ventilation. High temperatures. Contamination
Materials to avoid	:	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	:	Type: Hazardous decomposition products Chlorine containing gases can be produced. Type: Hazardous combustion products Chlorine containing gases can be produced.
Hazardous reactions	:	Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50 rat Dose: 497 - 678 mg/kg
Acute dermal toxicity	:	LD50 rat Dose: > 2,000 mg/kg
Acute inhalation toxicity	:	This material in the form as sold is not expected to produce respiratory effects. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. May cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes.
Skin irritation	:	Direct contact with wet material or moist skin may cause severe irritation, pain and possibly burns.
Eye irritation	:	Corrosive - causes irreversible eye damage.
Sensitisation	:	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

SECTION 12. ECOLOGICAL INFORMATION

Additional ecological information : Toxic to fish.
Toxic to aquatic organisms.
Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or other waters unless in accordance with the requirements of a 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.
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
Proper shipping name : Corrosive solids, n.o.s.
Proper technical name (Contains SODIUM DICHLORO-S-TRIAZINETRIONE, COPPER CITRATE)
Class : 8
Packing group : III

IATA
UN-Number : 1759

	Proper shipping name	:	Corrosive solid n.o.s.
	Proper technical name		(Contains SODIUM DICHLORO-S-TRIAZINETRIONE, COPPER CITRATE)
	Class	:	8
	Packing group	:	III
IMDG	UN-Number	:	1759
	Proper shipping name	:	CORROSIVE SOLID, N.O.S.
	Proper technical name		(Contains SODIUM DICHLORO-S-TRIAZINETRIONE, COPPER CITRATE)
	Class	:	8
	Packing group	:	III

ORM-D Consumer Commodity exemption possible
Limited Quantity exemption possible

SECTION 15. REGULATORY INFORMATION

National regulatory information

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

SARA Hazard category : Acute Health Hazard
Fire Hazard
Reactivity Hazard

US. EPA CERCLA (Product) : US. EPA CERCLA Hazardous Substances (40 CFR 302)

Listed

US CERCLA (Component) : US. Environmental Protection Agency (EPA); The 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Reportable quantity**:** 5,000 lbs

Trade Secret 001		< 10 %

Listed, No RQ is being assigned to this generic or broad class.

Proprietary additive 123		< 5 %

US State Regulations

US MA RTK (Component) : US. The Commonwealth of Massachusetts Department of Public Health; Massachusetts Right-to-know law,The Massachusetts Substance List, 105 CMR 670.000

Massachusetts hazardous substance

Sodium dichloro-s-triazinetrione	2893-78-9	63.05 %

Massachusetts hazardous substance

Trade Secret 001		< 10 %

Massachusetts hazardous substance

Trade Secret 016		< 5 %

US NJ RTK (Component) :

US. New Jersey Department of Environmental Protection -; Bureau of Hazardous Substances New Jersey Right to Know Law, Hazardous Substance List [P.L. 1983, C. 315, NJSA 34:5A-1 et seq]

hazardous substance

Sodium dichloro-s-triazinetrione	2893-78-9	63.05 %

hazardous substance

Inorganic salt		< 25 %

hazardous substance

Trade Secret 001		< 10 %

hazardous substance

Proprietary additive 123		< 5 %

US PA RTK (Component) :

US. Commonwealth of Pennsylvania - Department of Labor and Industry; Pennsylvania Code Title 34, Labor and Industry Chapter 323

hazardous substance

Sodium dichloro-s-triazinetrione	2893-78-9	63.05 %

environmental hazard, hazardous substance

Trade Secret 001		< 10 %

environmental hazard, hazardous substance

Proprietary additive 123		< 5 %

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

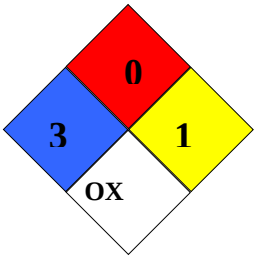
Additional advice :

FIFRA (Federal Insecticide, Fungicide, Rodenticide Act): This product is a registered pesticide.

SECTION 16. OTHER INFORMATION

Further information

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



HMIS Classification : Health Hazard: 3
Flammability: 0
Physical and chemical hazards: 1
PPI:Ask supervisor or safety specialist for handling instructions

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. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of the seller, it is the user's obligation to determine the conditions of safe use of the products.