

Material Safety Data Sheet

BIOGUARD® OFF SEASON ARCTIC BLUE® SHOCK

Version: 1.0

Revision Date: 05/09/2012

Print Date: 06/11/2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: *BIOGUARD® OFF SEASON ARCTIC BLUE® SHOCK*

Product Use Description: Recreational Water Product

Chemical nature: Chlorinated Isocyanurates

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
Chemtura Corporation Emergency Response: CHEMTURA : 800-292-5898

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by: Product Safety Department
(US) +1 866-430-2775

05/09/2012

MSDSRequest@chemtura.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

Form: granules Colour: blue Odour: Chlorine

Hazard Summary

:
Corrosive
Oxidizer
Causes serious eye damage.
Harmful if swallowed.
Harmful if absorbed through skin.
Avoid breathing dust or vapor.
May be harmful if inhaled.
Causes skin irritation.
Do not get in eyes, on skin, or on clothing.

OSHA Hazards

:
CORROSIVE
OXIDIZER
IRRITANT

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Potential Health Effects

- Primary Routes of Entry : Skin contact
Eye contact
Inhalation
Ingestion
- Aggravated Medical Condition : Respiratory disorders
Skin disorders
- Inhalation : Causes respiratory tract irritation.
- Skin : Causes skin irritation.
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 : 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	58.2 %
Trade secret 001	5 - 15 %
Boron salt	5 - 15 %

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

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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 30 minutes.
Call a POISON CENTER or doctor/ physician.

Eye contact : Rinse immediately with plenty of water for at least 30 minutes.
Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.
Get medical attention immediately.

Ingestion : Call a physician or poison control centre immediately.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
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: 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 : When ignited, will burn with the evolution of noxious chlorine containing gases.
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.

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 - 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,

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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.
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.

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.
Contains a strong oxidizing agent.
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 may start a chemical reaction and generate heat, hazardous gas, possible fire and explosion.
In case of contamination or decomposition, do not reseal container.
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 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.
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
Boron salt	TWA	10 mg/m3	

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	OSHA P0 1989-01-19		
	TWA ACGIH 2007-01-01	2 mg/m3	
	STEL ACGIH 2007-01-01	6 mg/m3	
	TWA NIOSH REL 2005-09-01	1 mg/m3	

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 : blue

Odour : Chlorine

Safety data

Flash point : Note: not applicable

pH : 5 - 5.5
Note: 1% Solution

Melting point/range : 522 °F (272 °C)

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Boiling point/boiling range	: Note: not applicable
Vapour pressure	: Note: no data available
Density	: 1.0 g/cm ³
Water solubility	: 250 g/l
Relative vapour density	: Note: no data available

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	: Remarks: High temperatures. Poor ventilation. Contamination Moisture/high humidity.
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: Chlorine containing gases can be produced. nitrogen oxides (NO _x) Carbon oxides Sulphur oxides
Hazardous reactions	: Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity Sodium Dichloro-S- Triazinetrione	: Acute toxicity estimate: 500 mg/kg Method: Converted acute toxicity point estimate
Trade secret 001	: LD50: > 5,000 mg/kg Species: rat
Boron salt	: LD50: 3,440 - 4,580 mg/kg Species: rat
Acute inhalation toxicity Sodium Dichloro-S- Triazinetrione	: LC50: 0.27 - 1.17 mg/l Exposure time: 4 h Species: rat
Boron salt	: LC50: 0.27 - 1.17 mg/l
Skin irritation	

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Trade secret 001 : Result: No skin irritation

Eye irritation
Trade secret 001 : Result: Risk of serious damage to eyes.

12. ECOLOGICAL INFORMATION

Toxicity to fish
Trade secret 001 : LC50: 37 mg/l
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
Trade secret 001 : LC50: ca. 6.57 mg/l
Exposure time: 48 h

Boron salt : > 100 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae
Boron salt : > 100 mg/l
Exposure time: 72 h
Species: Algae

Bioaccumulation
Trade secret 001 : Remarks:
Bioaccumulation is unlikely.

Further information on ecology

Additional ecological information : Toxic to fish.
Harmful to aquatic life.
Avoid release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Improper disposal of excess product, spray mixture or rinsate is a violation of Federal Law.
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 put product, spilled product, or filled or partially filled

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containers into the trash or waste compactor.
Contact with incompatible materials could cause a reaction or fire.

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

Not dangerous goods

IATA

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

IMDG

UN number : 1759
Description of the goods : CORROSIVE SOLID, N.O.S.
(SODIUM DICHLORO-S-TRIAZINETRIONE)
Class : 8
Packing group : II
EmS Number 1 : F-A
EmS Number 2 : S-B

Marine pollutant : yes
SODIUM DICHLORO-S-TRIAZINETRIONE
Environmentally hazardous : yes
SODIUM DICHLORO-S-TRIAZINETRIONE

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.

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Corrosive, Oxidizer, Irritant

**SARA 302 Reportable
Quantity** :

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

SARA 302 Reportable :

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Quantity

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

Massachusetts Right To Know Components

: Sodium Dichloro-S-Triazinetrione 2893-78-9NFPA49 national fire protection association 'hazardous chemicals data' substances (NFPA 49).
sodium sulphate 7757-82-6Toxic chemical release substances. 52 fr 21152 (6/4/87). Subject to SARA Title III.
aluminium sulfate 10043-01-3CERCLA hazardous substances. 40 cfr part 302. May be subject to emergency release notification under SARA Title III.
disodium tetraborate pentahydrate 12179-04-3OSHA a. United states occupational safety and health administration substances, 29 cfr 1910.1000, sub part z.

Pennsylvania Right To Know Components

: Sodium Dichloro-S-Triazinetrione 2893-78-9NFPA49 national fire protection association 'hazardous chemicals data' substances (NFPA 49).
sodium sulphate 7757-82-6Toxic chemical release substances. 52 fr 21152 (6/4/87). Subject to SARA Title III.
aluminium sulfate 10043-01-3CERCLA hazardous substances. 40 cfr part 302. May be subject to emergency release notification under SARA Title III.
disodium tetraborate pentahydrate 12179-04-3OSHA a. United states occupational safety and health administration substances, 29 cfr 1910.1000, sub part z.

New Jersey Right To Know Components

: Sodium Dichloro-S-Triazinetrione 2893-78-9 NFPA49 national fire protection association 'hazardous chemicals data' substances (NFPA 49).
sodium sulphate 7757-82-6 Toxic chemical release substances. 52 fr 21152 (6/4/87). Subject to SARA Title III.
aluminium sulfate 10043-01-3 CERCLA hazardous substances. 40 cfr part 302. May be subject to emergency release notification under SARA Title III.
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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:

TSCA

Note: Listed

DSL

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

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

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

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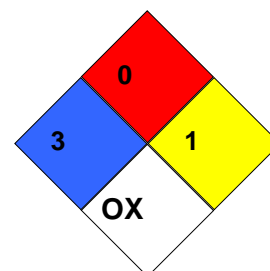
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NFPA Classification

: 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.

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BIOGUARD® ARCTIC BLUE® ALG PROTECT

Version: 1.0

Revision Date: 03/08/2011

Print Date: 06/11/2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: *BIOGUARD® ARCTIC BLUE® ALG PROTECT*

Product Use Description: Recreational Water Product

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
Chemtura Corporation Emergency Response: CHEMTURA : 800-292-5898

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by: Product Safety Department
(US) +1 866-430-2775

03/08/2011 +011-886-2-2712-5668 MSDSRequest@chemtura.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Caution

Form: liquid Colour: blue green Odour: mild acidic

Hazard Summary : Harmful if swallowed.
Irritating to eyes.
Avoid breathing vapors.
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 : Eye contact
Ingestion
- Inhalation : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
- Skin : Not expected to cause skin irritation under normal use conditions.
- Eyes : Causes eye irritation.
- Ingestion : Harmful if swallowed.
- Chronic Exposure : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Component	CAS-No.	Weight percent
copper	7440-50-8	3.3 %
Trade Secret 020		< 2 %

SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : Remove to fresh air.
Give oxygen or artificial respiration if needed.
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 for at least 15 minutes.
Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.
Call a POISON CENTER or doctor/ physician.
- Ingestion : Call a physician or poison control centre immediately.
Do not induce vomiting unless told to do so by the poison control center or doctor.
Have person sip a glass of water if able to swallow.
Do not give anything by mouth to an unconscious person.

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SECTION 5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : Remarks: not applicable

Fire fighting

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Protective equipment and precautions for firefighters

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.

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.
Soak up with inert absorbent 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.

Additional advice : Treat recovered material as described in the section "Disposal considerations".

SECTION 7. HANDLING AND STORAGE

Handling

Handling procedures : Avoid contact with skin, eyes and clothing.
Avoid breathing vapors.
Do not mix with other chemicals.
Do not contaminate water, food or feed by storage or disposal or cleaning of equipment.
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.
Store in a cool, dry, well ventilated area away from heat or open flame.
Keep out of reach of children.
Keep away from animals.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components with workplace control parameters

Components / CAS-No.	Value / Basis / Update	Control parameters	Further information
Trade Secret 020	C ACGIH 2007-01-01	2 mg/m3	
	C OSHA P0 1989-01-19	2 mg/m3	

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 : No special protective equipment required.
Wear as appropriate:
Rubber gloves

Hygiene measures : Wash contaminated clothing before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : liquid

Colour : blue green

Odour : mild
acidic

Safety data

Flash point : Note: not applicable

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pH : 2 - 3
Specific Gravity : 1.18 at

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Remarks: High temperatures.
Poor ventilation.
Contamination

Materials to avoid : Remarks: Oxidizing agents
Do not mix with other swimming pool/spa chemicals in their concentrated forms.

Hazardous decomposition products : Note: Carbon oxides
Copper oxides
Sulphur oxides

Hazardous reactions : Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50: 3,501 mg/kg
Species: rat

Acute inhalation toxicity copper :

Acute dermal toxicity : LD50: > 5,000 mg/kg
Species: rabbit

Skin irritation : Species: rabbit
Result: No skin irritation

Eye irritation : Remarks: Moderate eye irritation

Sensitisation copper : Classification: Did not cause sensitization on laboratory animals.

CMR effects copper : Carcinogenicity: Animal testing did not show any carcinogenic effects.
Mutagenicity: Animal testing did not show any mutagenic effects.
Teratogenicity: No effects on or via lactation
Reproductive toxicity: No toxicity to reproduction

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12. ECOLOGICAL INFORMATION

Further information on ecology

Additional ecological information : 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.

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 : 1760
Description of the goods : Corrosive liquids, n.o.s.
(Copper Sulfate)
Class : 8
Packing group : III
ERG Code : 154

IATA

UN number : 1760
Description of the goods : Corrosive liquid, n.o.s.
(Copper Sulfate)
Class : 8
Packing group : III

IMDG

UN number : 1760

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Description of the goods : CORROSIVE LIQUID, N.O.S.
(Copper Sulfate)
Class : 8
Packing group : III
EmS Letter 1 : F-A
EmS Letter 2 : S-B
Marine pollutant : yes
Copper Sulfate

Not recommended for shipment by air
Limited Quantity exemption possible
ORM-D Consumer Commodity exemption possible
Not regulated by DOT and TDG if shipped or transported in packaging less than 450 liters by road and/or rail.

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 : 78 lbs

SARA 311/312 Hazards : Acute Health Hazard
copper sulphate 7758-98-7 10 lbs

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

SARA 302 Reportable Quantity :

SARA 313 Components : Copper Sulfate 7758-98-7

SECTION 16. OTHER INFORMATION

Further information

HMIS Classification : Health hazard: 2
Flammability: 0
Physical hazards: 0

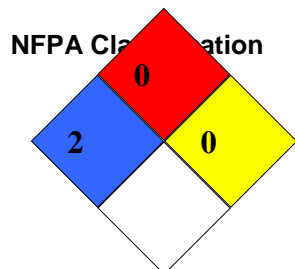
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NFPA Classification

: Health hazard: 2
Fire Hazard: 0
Reactivity Hazard: 0

Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+52 113 711 91 44
	All other countries	+44 (0)208 762 8322
<u>Mexico:</u>		+52 555 004 87 63

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