

Product Code **1103**

Product Name **BioGuard Smart Pak**

SAFETY DATA SHEET

27-May-2016

1. IDENTIFICATION

Product identifier

Product Name BioGuard Maintain Smart Shock

Other means of identification

Product Code 2446
UN/ID no. UN1759

Recommended use of the chemical and restrictions on use

Recommended Use Swimming Pool Product.
Uses advised against Do not mix with other chemicals

Details of the supplier of the safety data sheet

Supplier Address
KIK HOLDCO COMPANY INC.
33 MacIntosh Blvd.
Concord, ON L4K 4L5
1-888-640-7946

Emergency telephone number

Emergency Telephone Canutec (Transportation) 1-613-996-6666 (Call Collect)
Poison Control Center (Medical) : (877) 800-5553

2. HAZARDS IDENTIFICATION

Classification

This mixture is classified as hazardous according to the Global Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed
Harmful in contact with skin
Causes severe skin burns and eye damage
Suspected of damaging fertility or the unborn child
May cause respiratory irritation



Color Blue green

Physical state Solid

Odor Chlorine

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 Call a POISON CENTER or doctor/physician if you feel unwell
 Wash contaminated clothing before reuse
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 Call a POISON CENTER or doctor/physician if you feel unwell
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information**3. COMPOSITION/INFORMATION ON INGREDIENTS****Mixture**

Chemical Name	CAS No.	Weight-%
Sodium Dichloro-S-Triazinetrione	2893-78-9	63.05
Boron sodium oxide (B ₄ Na ₂ O ₇), pentahydrate	12179-04-3	3 - 7
aluminium sulfate	10043-01-3	3 - 7

4. FIRST AID MEASURES**Description of first aid measures****General advice**

If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Immediate medical attention is not required.

Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Call a physician. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.
Self-protection of the first aider	Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Flood fire area with water from a distance.

Unsuitable extinguishing media Do not use dry chemicals, carbon dioxide, or halogenated extinguishing agents.

Specific hazards arising from the chemical

Do not let the fire burn. Thermal decomposition can lead to release of toxic/corrosive gases and vapors. Wet material may generate nitrogen trichloride, an explosion hazard.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

In the event of fire, wear self-contained breathing apparatus. In the event of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. 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.

Methods for cleaning up

Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush

away traces with water. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatible materials

Incompatible with strong acids and bases. Ammonia. Calcium hypochlorite. Combustible material. Do not mix with other swimming pool/spa chemicals in their concentrated forms. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boron sodium oxide (B ₄ Na ₂ O ₇), pentahydrate 12179-04-3	STEL: 6 mg/m ³ inhalable fraction TWA: 2 mg/m ³ inhalable fraction	(vacated) TWA: 10 mg/m ³	TWA: 1 mg/m ³
aluminium sulfate 10043-01-3	-	(vacated) TWA: 2 mg/m ³ Al Aluminum	TWA: 2 mg/m ³ Al

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

Skin and body protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state
Appearance
Color

Solid
granules
Blue green

Odor
Odor threshold

Chlorine
No information available

Property
pH

Values
4.6 - 4.8

Remarks • Method
in 1% Solution
Decomposes on heating

Melting point/freezing point
Boiling point / boiling range

272 °C / 522 °F
No information available

Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Density	1.02 - 1.04	g/cm3
Bulk density	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available

10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight. Protect from moisture. Do not mix with other chemicals.

Incompatible materials

Incompatible with strong acids and bases. Ammonia. Calcium hypochlorite. Combustible material. Do not mix with other swimming pool/spa chemicals in their concentrated forms. Reducing agent.

Hazardous Decomposition Products

Chlorine gas.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Irritating to respiratory system.
Eye contact	Severely irritating to eyes. Risk of serious damage to eyes. Causes burns.
Skin contact	Irritating to skin. Contact with moist skin may cause skin burns. Harmful in contact with skin.
Ingestion	Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Dichloro-S-Triazinetrione 2893-78-9	= 735 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	0.27 - 1.17 mg/L (Rat, dust) 4 h
Boron sodium oxide (B4Na2O7), pentahydrate 12179-04-3	= 2403 mg/kg (Rat)	-	-
aluminium sulfate 10043-01-3	= 1930 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity 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 humans.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic toxicity No information available. Avoid repeated exposure.

Target Organ Effects Eyes, Respiratory system, Skin.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (inhalation-dust/mist) 19.8 mg/l

Oral LD50 581 mg/kg (rat)

Dermal LD50 > 2000 mg/kg (rat)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

9.0511% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Sodium Dichloro-S-Triazinetrione 2893-78-9	-	0.25 - 1: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 0.207 - 0.389: 96 h <i>Lepomis macrochirus</i> mg/L LC50 flow-through 0.176 - 0.267: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 0.29: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 0.13 - 0.36: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	0.00018 - 0.00021: 48 h <i>Daphnia magna</i> mg/L EC50 0.093 - 0.16: 48 h <i>Daphnia magna</i> mg/L EC50
aluminium sulfate 10043-01-3	-	100: 96 h <i>Carassius auratus</i> mg/L LC50 37: 96 h <i>Gambusia affinis</i> mg/L LC50 static	136: 15 min <i>Daphnia magna</i> mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Refer to all federal, state and local regulations prior to disposal of container and unused contents by reuse, recycle or disposal.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. TRANSPORT INFORMATION

Note: Limited quantity (LQ) exception is possible Limited quantity (LQ) exception is possible

DOT

UN/ID no.	UN1759
Proper shipping name	Corrosive solids, n.o.s. (Sodium dichloro-s-triazinetrione, Copper Compounds)
Hazard Class	8
Packing Group	III
Description	UN1759, Corrosive solids, n.o.s. (Sodium dichloro-s-triazinetrione, Copper Compounds), 8, III
Emergency Response Guide Number	154

TDG

UN/ID no.	UN1759
Proper shipping name	Corrosive solid, n.o.s. (Sodium dichloro-s-triazinetrione, Copper Compounds)
Hazard Class	8
Packing Group	III

IATA

UN/ID no.	UN1759
Proper shipping name	Corrosive solid, n.o.s. (Sodium dichloro-s-triazinetrione, Copper Compounds)
Hazard Class	8
Subsidiary hazard class	III
Description	UN1759, Corrosive solid, n.o.s. (Sodium dichloro-s-triazinetrione, Copper Compounds), 8, III

IMDG

UN/ID no.	UN1759
Proper shipping name	Corrosive solid, n.o.s. (Sodium dichloro-s-triazinetrione, Copper Compounds)
Hazard Class	8
Packing Group	III
EmS-No.	F-A, S-B
Description	UN1759, Corrosive solid, n.o.s. (Sodium dichloro-s-triazinetrione, Copper Compounds), 8, III
Marine pollutant	This material meets the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No

Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
aluminium sulfate 10043-01-3	5000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
aluminium sulfate 10043-01-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

Canada

PCP Registration Number

This product does not contain any substances regulated as pesticides. / Ce produit ne contient aucune substance réglementée comme un pesticide.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION
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NFPA	Health hazards 3	Flammability 0	Instability 1	Physical and Chemical Properties -
HMIS	Health hazards 3	Flammability 0	Physical hazards 1	Personal protection X

Prepared By	Regulatory Affairs
Revision Date	27-May-2016
Revision Note	No information available
Disclaimer	

The information provided in this Material 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.

End of Safety Data Sheet

SAFETY DATA SHEET

20-May-2016

1. IDENTIFICATION

Product identifier

Product Name BioGuard Smart SilkGuard Sticks

Other means of identification

Product Code 2464

Recommended use of the chemical and restrictions on use

Recommended Use Swimming pool sanitizer.

Uses advised against Do not mix with other chemicals

Details of the supplier of the safety data sheet

Supplier Address

KIK HOLDCO COMPANY INC.
33 MacIntosh Blvd.
Concord, ON L4K 4L5
1-888-640-7946

Emergency telephone number

Emergency Telephone Canutec (Transportation) 1-613-996-6666 (Call Collect)
Poison Control Center (Medical) : (877) 800-5553

2. HAZARDS IDENTIFICATION

Classification

This mixture is classified as hazardous according to the Global Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 5
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed
May be harmful in contact with skin
Causes severe skin burns and eye damage
May cause respiratory irritation
Fatal if inhaled **



Color blue

Physical state Solid

Odor Chlorine

** Product as sold is not expected to produce respiratory effects. See Section 11 (Toxicological Information) for

additional details on inhalation.**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Wear respiratory protection
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 Call a POISON CENTER or doctor/physician if you feel unwell
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 Do NOT induce vomiting
 In case of fire: Water only; no dry chemical, CO₂ or Halon

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

3.55% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	CAS No.	Weight-%
Trichloro-s-triazinetrione	87-90-1	93.9

4. FIRST AID MEASURES

Description of first aid measures

General advice	If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration.

Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Call a physician immediately.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Flood fire area with water from a distance.

Unsuitable extinguishing media Do not use dry chemicals, carbon dioxide, or halogenated extinguishing agents.

Specific hazards arising from the chemical

Do not let the fire burn. Thermal decomposition can lead to release of toxic/corrosive gases and vapors. Wet material may generate nitrogen trichloride, an explosion hazard.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. 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.

Methods for cleaning up Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Do not use floor sweeping compounds to clean up spills. Do not transport wet or damp material. Contact supplier in Section 1 for instructions, especially for damp or contaminated material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation. Do not mix with other chemicals. Keep/Store away from clothing/ combustible materials. Wash thoroughly after handling. Use only in well-ventilated areas.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatible materials

Incompatible with strong acids and bases. Ammonia. Calcium hypochlorite. Combustible material. Do not mix with other swimming pool/spa chemicals in their concentrated forms. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state

Solid

Appearance

Cylinder shaped sticks

Color

blue

Odor

Chlorine

Odor threshold

No information available

Property

Values

Remarks • Method

pH

3.5

in 1% Solution

Melting point/freezing point

No information available

Boiling point / boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Flammability Limit in Air

Upper flammability limit:

No information available

Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Density	0.88 - 0.96	g/cm3
Bulk density	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight. Protect from moisture. Do not mix with other chemicals.

Incompatible materials

Incompatible with strong acids and bases. Ammonia. Calcium hypochlorite. Combustible material. Do not mix with other swimming pool/spa chemicals in their concentrated forms. Reducing agent.

Hazardous Decomposition Products

Chlorine gas.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Inhalation**

This material in the form as sold is not expected to produce respiratory effects. Particles of respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

Eye contact

Severely irritating to eyes. Risk of serious damage to eyes. Causes burns.

Skin contact

Irritating to skin. Contact with moist skin may cause skin burns. Causes burns. May be harmful in contact with skin.

Ingestion

Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Trichloro-s-triazinetrione 87-90-1	= 406 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>50 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic toxicity	Avoid repeated exposure.
Aspiration hazard	No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (inhalation-dust/mist)	0.2 mg/l
Oral LD50	599 mg/kg (rat)
Dermal LD50	> 2000 mg/kg (rat)

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Very toxic to aquatic life with long lasting effects

6.04364% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Trichloro-s-triazinetrione 87-90-1	-	0.13 - 0.5: 96 h Lepomis macrochirus mg/L LC50 static 0.06 - 0.11: 96 h Oncorhynchus mykiss mg/L LC50 static	0.21: 48 h Daphnia magna mg/L EC50 0.16 - 0.18: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container. Refer to all federal, state and local regulations prior to disposal of container and unused contents by reuse, recycle or disposal.

14. TRANSPORT INFORMATION**Note:**

Product classified as UN 3077 or UN 3082 that are shipped in containers not exceeding 5 kg or 5 L may ship as Not Subject to the provisions of the IMDG Code and Not Restricted under IATA. Refer to IMDG Ch 2.10 and IATA SP-197.

DOT

Not regulated

TDG Not regulated

IATA
UN/ID no. UN3077
Proper shipping name Environmentally hazardous substance, solid, n.o.s. (Trichloro-s-triazinetrione)
Hazard Class 9
Packing Group III

IMDG
UN/ID no. UN3077
Proper shipping name Environmentally hazardous substance, solid, n.o.s. (Trichloro-s-triazinetrione)
Hazard Class 9
Packing Group III
EmS-No. F-A, S-F
Marine pollutant Yes

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Canada

PCP Registration Number 30764

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<u>NFPA</u>	Health hazards 3	Flammability 0	Instability 1	Physical and Chemical Properties OX
<u>HMIS</u>	Health hazards 3	Flammability 0	Physical hazards 1	Personal protection X

Prepared By Regulatory Affairs
Revision Date 20-May-2016
Revision Note No information available

Disclaimer

The information provided in this Material 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.

End of Safety Data Sheet

SAFETY DATA SHEET

11-May-2016

1. IDENTIFICATION

Product identifier

Product Name BioGuard Banish

Other means of identification

Product Code 3107
UN/ID no. UN1760

Recommended use of the chemical and restrictions on use

Recommended Use Swimming pool algaecide.
Uses advised against Do not mix with other chemicals

Details of the supplier of the safety data sheet

Supplier Address
KIK HOLDCO COMPANY INC.
33 MacIntosh Blvd.
Concord, ON L4K 4L5
1-888-640-7946

Emergency telephone number

Emergency Telephone Canutec (Transportation) 1-613-996-6666 (Call Collect)
Poison Control Center (Medical) : (877) 800-5553

2. HAZARDS IDENTIFICATION

Classification

This mixture is classified as hazardous according to the Global Harmonized System (GHS)

Acute toxicity - Oral	Category 5
Serious eye damage/eye irritation	Category 2A

Label elements

Emergency Overview

Warning

Hazard statements

May be harmful if swallowed
Causes serious eye irritation



Color Blue green

Physical state liquid

Odor mild, acidic

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Call a POISON CENTER or doctor/physician if you feel unwell

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

11.21% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Chemical Name	CAS No.	Weight-%
Copper (metallic)	7440-50-8	1.71*

* Derived from Copper sulfate pentahydrate (CAS # 7758-99-8).

4. FIRST AID MEASURES**Description of first aid measures**

Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. Oxygen or artificial respiration if needed. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Call a physician.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

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

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information. Do not allow into any sewer, on the ground or into any body of water.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use personal protective equipment as required. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not mix with other chemicals.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep out of the reach of children. Keep in a dry, cool and well-ventilated place.

Incompatible materials Incompatible with oxidizing agents. Do not mix with other swimming pool/spa chemicals in their concentrated forms.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper (metallic) 7440-50-8	TWA: 0.2 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist (vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	IDLH: 100 mg/m ³ dust, fume and mist IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	mild, acidic
Appearance	aqueous solution	Odor threshold	No information available
Color	Blue green		
Property	Values	Remarks • Method	
pH	2 - 3		
Melting point/freezing point	No information available		
Boiling point / boiling range	No information available		
Flash point	No information available		
Evaporation rate	No information available		
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	No information available		
Vapor density	No information available		
Specific Gravity	No information available		
Water solubility	completely miscible		
Solubility in other solvents	No information available		
Partition coefficient	No information available		
Autoignition temperature	No information available		
Decomposition temperature	No information available		
Kinematic viscosity	No information available		
Dynamic viscosity	No information available		
Density	1.1	g/cm3	
Bulk density	No information available		
Explosive properties	No information available		
Oxidizing properties	No information available		

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Incompatible with oxidizing agents. Do not mix with other swimming pool/spa chemicals in their concentrated forms.

Hazardous Decomposition Products

Carbon oxides. Sulphur oxides. copper oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Not an expected route of exposure.
Eye contact	Severely irritating to eyes.
Skin contact	Not expected to cause skin irritation under normal use conditions.

Ingestion May be harmful if swallowed.

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity No information available.
Target Organ Effects Eyes.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a severe marine pollutant according to DOT.

Ecotoxicity

Very toxic to aquatic life with long lasting effects

13.8% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Copper (metallic) 7440-50-8	0.0426 - 0.0535: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.031 - 0.054: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.3: 96 h Pimephales promelas mg/L LC50 static 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.8: 96 h Cyprinus carpio mg/L LC50 static 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through	0.03: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Refer to all federal, state and local regulations prior to disposal of container and unused contents by reuse, recycle or disposal.

14. TRANSPORT INFORMATION

Note: Limited quantity (LQ) exception is possible

DOT

UN/ID no. UN1760
Proper shipping name Corrosive liquids, n.o.s. (contains delta-gluconolactone)
Hazard Class 8
Packing Group III
Marine pollutant This product contains a chemical which is listed as a severe marine pollutant according to DOT.
Emergency Response Guide Number 154

TDG

UN/ID no. UN1760
Proper shipping name Corrosive liquid, n.o.s. (contains delta-gluconolactone)
Hazard Class 8
Packing Group III
Marine pollutant This product contains a chemical which is listed as a severe marine pollutant according to TDG.

IATA

UN/ID no. UN1760
Proper shipping name Corrosive liquid, n.o.s. (contains delta-gluconolactone)
Hazard Class 8
Packing Group III

IMDG

UN/ID no. UN1760
Proper shipping name Corrosive liquid, n.o.s. (contains delta-gluconolactone)
Hazard Class 8
Packing Group III
EmS-No. F-A, S-B
Marine pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Copper (metallic) - 7440-50-8	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard No

Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper (metallic) 7440-50-8	-	X	X	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Copper (metallic) 7440-50-8	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

Canada

PCP Registration Number 27334

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 2	Flammability 0	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 2	Flammability 0	Physical hazards 0	Personal protection X

Prepared By Regulatory Affairs
Revision Date 11-May-2016
Revision Note No information available

Disclaimer

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End of Safety Data Sheet