U.S. WATER

SAFETY DATA SHEET

BIOTROL 102

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: BIOTROL 102
Common Name: Mixture
SDS Number: 0160
Product Code: BI0001
Revision Date: 5/7/2015
Version: 1
Internal ID: 300D
Product Use: Water Treatment Biocide
Supplier Details: U. S. Water Services
12270 43rd St. NE
St. Michael, MN 55376

Contact: Non-emergency #: 866-663-7632
Email: SDS@uswaterservices.com
Web: www.uswaterservices.com

EMERGENCY RESPONSE: (ChemTel)
US & Canada: 800-255-3924
International: +01-813-248-0585

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):
Health, Skin corrosion/irritation, 1 B
Health, Skin sensitization, 1

GHS Label elements, including precautionary statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:

GHS Hazard Statements:
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction

GHS Precautionary Statements:
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P333+313 - If skin irritation or a rash occurs: Get medical advice/attention.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS

PPE recommendation is advisory only and based on typical use conditions. An industrial hygienist or safety officer familiar with the specific situation of anticipated use must determine actual PPE required when using this product (29 CFR 1910.132)

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
26172-55-4	1.15-1.25%	3(2H)-Isothiazolone, 5-chloro-2-methyl-
2682-20-4	0.35-0.45%	3(2H)-Isothiazolone, 2-methyl-
7786-30-3	1.0-1.2%	Magnesium chloride (MgCl2)
10377-60-3	1.7-1.8%	Magnesium nitrate
3251-23-8	0.15-0.17%	Cupric nitrate

4 FIRST AID MEASURES

Inhalation: Remove from contamination. If person has stopped breathing administer artificial respiration. Seek medical attention.

Skin Contact: Wash off with soap and plenty of water. Remove contaminated garments and wash or destroy. Seek medical attention if irritation develops. Consult a physician if irritation develops.

Eye Contact: Flush eyes with plenty of running water for 15 minutes. Seek medical attention.

Ingestion: If conscious, give plenty of water. If discomfort or other symptoms develop, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms & effects (acute & delayed)**:** No data available
Indication of need for immediate medical attention: None
Special treatment needs: None

5 FIRE FIGHTING MEASURES

Flammability: Not flammable
Flash Point: None
Flash Point Method: Pensky Martens Closed cup
Burning Rate: No data available
Autoignition Temp: No data available
LEL: Not applicable
UEL: Not applicable

Extinguishing Media:

Suitable: Use extinguishing media suitable for surrounding fire.

Unsuitable: No information available

Hazardous combustion products: None

Unusual Fire or Explosion Hazards: Avoid exposure to fumes and vapors from a fire, can possibly include sulfur dioxide and hydrogen chlroide and oxides of sulfur.

Special protective equipment/precautions: Wear self-contained breathing apparatus

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective equipment, emergency procedures: Avoid contact with the material. See section 8 for PPE recommendations
Environmental Precautions: Keep runoff from entering drains or waterways
Spill/Leak procedures: Contain spill or leak. Dike area if necessary to prevent spill from spreading or entering sewers and waterways. Recover as much as possible then absorb remainder with inert material. Place into closed container for disposal.
This is a hazardous waste: RCRA #D002. Reportable quantity 100 lbs. (Cercla Superfund Sec 103) Land fill contaminated solids in sealed drums in accordance with all applicable local, state and federal regulations.
Regulatory Requirements: Dispose of recovered material in accordance with all applicable state and federal regulations.

7 HANDLING AND STORAGE

Handling Precautions: Avoid contact with eyes, skin, or clothing. Do not taste or swallow. Do not inhale vapor or mist. Use with adequate ventilation. For industrial use only!

Storage Requirements: Keep away from children. Store in closed containers away from temperature extremes and incompatible materials.
Store in properly labeled containers in accordance with all local, state and federal guidelines.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Provide local exhaust ventilation as needed to control misting.

Personal Protective Equipment: HMIS PP, D | Face Shield and Eye Protection, Gloves, Apron

Respiratory protection: If needed use MSHA/NIOSH approved respirator for dusts and mists. Seek professional advice prior to respirator selection and use. Follow all requirements of OSHA respirator regulations (29 CFR 1910.134)
Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.
General Hygiene: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, using the toilet, or applying cosmetics.
PPE recommendation is advisory only and based on typical use conditions. An industrial hygienist or safety officer familiar with the specific situation of anticipated use must determine actual PPE required when using this product (29 CFR 1910.132)

Exposure Limits:
OSHA (TWA)/PEL: Not Established

ACGIH (TWA/TLV): Not Established

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light blue to light green
Physical State: Liquid
Odor Threshold: Not determined
Spec Grav./Density: 8.51 lb/gal
Viscosity: 3 cps (@25C)
Boiling Point: 100°C
Partition Coefficient: log Pow: 0.401
Vapor Pressure: Not determined
pH: 2.0-4.0
Evap. Rate: <1.00 (Butyl Acetate =1)
Decomp Temp: Not determined

Odor: Pungent odor
Solubility: Complete in water
Percent Volatile: 95-96 % water
Freezing/Melting Pt.: -3.00 °C
Flash Point: Not determined
Vapor Density: 0.62
Auto-Ignition Temp: Not determined
UFL/LFL: Not determined

10 STABILITY AND REACTIVITY

Stability: Product is stable under normal storage and use conditions.

Conditions to Avoid: Avoid temperature extremes. Protect from freezing

Materials to Avoid: Oxidizing agents, reducing agents, amines, mercaptans

Hazardous Decomposition: Nitrogen oxides (NOx) Sulphur oxides hydrogen chloride.

Hazardous Polymerization: Will not occur.

11 TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity
Acute oral toxicity
LD50, Rat, female, 3,310 mg/kg
LD50, Rat, male, > 5,000 mg/kg
Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg
Acute inhalation toxicity
LC50, Rat, 4 Hour, dust/mist, > 5 mg/l Estimated.
Skin corrosion/irritation
This material is corrosive.
Serious eye damage/eye irritation
Corrosive
Sensitization
Has caused allergic skin reactions when tested in guinea pigs.
Specific Target Organ Systemic Toxicity (Single Exposure)
Product test data not available.
Specific Target Organ Systemic Toxicity (Repeated Exposure)
Product test data not available.
Carcinogenicity

Did not cause cancer in laboratory animals.

Teratogenicity

Did not show teratogenic effects in animal experiments.

Reproductive toxicity

In animal studies, did not interfere with reproduction.

Mutagenicity

Not mutagenic when tested in bacterial or mammalian systems.

Aspiration Hazard

Product test data not available.

COMPONENTS INFLUENCING TOXICOLOGY:

5-Chloro-2-methyl-4-isothiazolin-3-one

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

2-Methyl-4-isothiazolin-3-one

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Magnesium Chloride

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Magnesium nitrate

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For similar material(s):

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration Hazard

Based on available information, aspiration hazard could not be determined.

Carcinogenicity

Component	List	Classification
Magnesium Nitrate	IRAC	Group 2A: Probably carcinogenic to humans
Copper Nitrate	IRAC	Group 2A: Probably carcinogenic to humans

12 ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

5-Chloro-2-methyl-4-isothiazolin-3-one
Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Rainbow trout (Oncorhynchus mykiss), 96 Hour, 0.19 mg/l, OECD Test Guideline 203 or Equivalent
LC50, Bluegill sunfish (Lepomis macrochirus), 96 Hour, 0.28 mg/l
Acute toxicity to aquatic invertebrates
EC50, Daphnia magna, 48 Hour, 0.16 mg/l
Acute toxicity to algae/aquatic plants
NOEC, Selenastrum capricornutum (green algae), Growth rate, 0.0099 mg/l
EC50, Algae (Selenastrum capricornutum), 72 Hour, Growth rate, 0.018 mg/l
Toxicity to bacteria
EC50, Bacteria, 16 Hour, 5.7 mg/l
Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.172000 mg/l
LOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.572000 mg/l

2-Methyl-4-isothiazolin-3-one
Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 4.77 mg/l, OECD Test Guideline 203 or Equivalent
Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, 0.93 - 1.9 mg/l
Acute toxicity to algae/aquatic plants
EC50, Algae (Selenastrum capricornutum), 72 Hour, Growth rate, 0.158 mg/l, OECD Test Guideline 201
Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, 21 d, 0.04 mg/l
Magnesium Chloride
Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Gambusia affinis (Mosquito fish), static test, 96 Hour, 16,500 mg/l, Method Not Specified.
Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 24 Hour, 3,190 mg/l, Directive 84/449/EEC, C.2
Acute toxicity to algae/aquatic plants
EC50, alga Scenedesmus sp., 72 Hour, Biomass, 2,200 mg/l, OECD Test Guideline 201 or Equivalent

Magnesium nitrate
Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.
For similar material(s):
LC50, Poecilia reticulata (guppy), 96 Hour, > 100 mg/l
Acute toxicity to aquatic invertebrates
For similar material(s):
EC50, Daphnia magna, 48 Hour, > 100 mg/l
Acute toxicity to algae/aquatic plants
For similar material(s):
ErC50, Algae, 72 Hour, Growth rate, > 100 mg/l
Copper nitrate

Acute toxicity to fish
Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).
LC50, Coho salmon, silver salmon (Oncorhynchus kisutch), 96 Hour, 0.286 mg/l, Method Not Specified.
LC50, Cyprinodon variegatus (sheepshead minnow), 96 Hour, 0.22 mg/l, Method Not Specified.
LC50, Zebra fish (Danio/Brachydanio rerio), 96 Hour, 0.21 mg/l, Method Not Specified.
LC50, Mosquito fish (Gambusia affinis), 72 Hour, 0.12 mg/l, Method Not Specified.
LC50, Bluegill sunfish (Lepomis macrochirus), 96 Hour, 0.62 mg/l, Method Not Specified.
EC10, Rainbow trout (Salmo gairdneri), 672 Hour, 0.0165 mg/l, Method Not Specified.
Acute toxicity to aquatic invertebrates
LC50, ceriodaphnia dubia (water flea), 48 Hour, 0.066 mg/l, Method Not Specified.
Acute toxicity to algae/aquatic plants
EC50, Marine diatom (Thalassiosira pseudonana), 72 Hour, Growth rate, 0.005 mg/l
EC50, Algae, 96 Hour, Growth rate, 0.033 mg/l
EC50, Algae (Selenastrum capricornutum), 336 Hour, 0.085 mg/l
EC50, Algae, 504 Hour, 0.07 mg/l

Persistence and degradability

5-Chloro-2-methyl-4-isothiazolin-3-one
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 98 %
Exposure time: 2 d
Method: OECD Test Guideline 302B or Equivalent

2-Methyl-4-isothiazolin-3-one
Biodegradability: Material is expected to be readily biodegradable.
Biodegradation: 98 %
Exposure time: 48 d
Method: Simulation study
Magnesium Chloride

Biodegradability: Biodegradation is not applicable.

Magnesium nitrate
Biodegradability: No relevant data found.
Bioaccumulative potential
Partition coefficient: n-octanol/water(log Pow): 0.401 Method Not Specified.
Mobility in soil

5-Chloro-2-methyl-4-isothiazolin-3-one
No relevant data found.

2-Methyl-4-isothiazolin-3-one
No relevant data found.

Magnesium Chloride
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 23.7

Magnesium nitrate
Potential for mobility in soil is very high (Koc between 0 and 50).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): 24

Copper nitrate
No data available.

13 DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations.

This material should be fully characterized for toxicity and possible reactivity prior to disposal (40 CFR 261). Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials, consult state and local regulations regarding the proper disposal of this material.

Container contents should be completely used and containers should be emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

14 TRANSPORT INFORMATION

UN3265, Corrosive liquid, acidic, organic, n.o.s., 8, PGII, (5-chloro-2-methyl-4-isothiazolin-3-one)

DOT Transportation data (49 CFR 172.101)

See section 15 of SDS for information on Reportable Quantity chemicals (RQ)

15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

3(2H)-Isothiazolone, 5-chloro-2-methyl- (26172-55-4) [1.15-1.25%] TSCA

3(2H)-Isothiazolone, 2-methyl- (2682-20-4) [0.35-0.45%] TSCA

Magnesium chloride (MgCl2) (7786-30-3) [1.0-1.2%] TSCA

Magnesium nitrate (10377-60-3) [1.7-1.8%] MASS, PA, TSCA

RQ(100LBS), Cupric nitrate (3251-23-8) [0.15-0.17%] CERCLA, CSWHS, EPCRAWPC, MASS, PA, TSCA

Regulatory CODE Descriptions

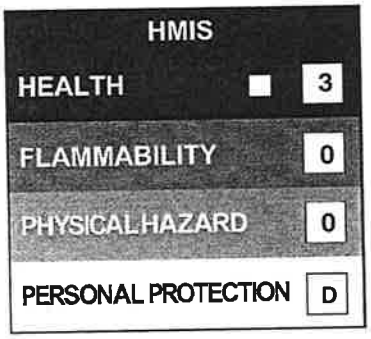
RQ = Reportable Quantity
TSCA = Toxic Substances Control Act
MASS = MA Massachusetts Hazardous Substances List
PA = PA Right-To-Know List of Hazardous Substances
CERCLA = Superfund clean up substance
CSWHS = Clean Water Act Hazardous substances
EPCRAWPC = EPCRA Water Priority Chemicals

TSCA: All components of this product are listed (or are not required to be listed) in the TSCA inventory
EPA / CERCLA / SARA TITLE III:

CERCLA List: This product does not contain any CERCLA listed hazardous substances.
Toxic Chemical List (SARA 313): This product does not contain any chemicals subject to routine annual toxic chemical release reporting.
Extremely Hazardous Substance (SARA 302/304): This product does not contain any extremely hazardous substances subject to emergency planning requirements.
SARA 312: Acute
RCRA: Corrosive, D002

16 OTHER INFORMATION

HMIS III: Health = 3, Fire = 0, Physical Hazard = 0
HMIS PPE: D - Face Shield and Eye Protection, Gloves, Apron



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Revision Notes: Updated to GHS format

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