

BIOTROL 536**1 PRODUCT AND COMPANY IDENTIFICATION**

Product Identifier: BIOTROL 536
Common Name: MIXTURE
SDS Number: 0308
Product Code: BI0020
Revision Date: 7/27/2017
Version: 2
EPA Number: 464-426-71675
Internal ID: 311C
Product Use: BIOCIDES
Supplier Details: U.S. Water Services
12270 43rd St. NE
St. Michael, MN 55376

Contact: Non-emergency #: 866-663-7632
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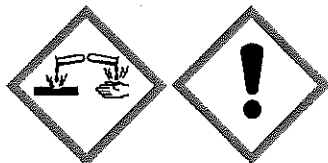
EMERGENCY RESPONSE: (ChemTel)
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2 HAZARDS IDENTIFICATION**Classification of the Substance or Mixture****GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):**

Health, Acute toxicity, 4 Inhalation
Health, Acute toxicity, 4 Oral
Health, Skin corrosion/irritation, 1
Health, Skin sensitization, 1 B

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:**GHS Hazard Statements:**

H332 - Harmful if inhaled
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction

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GHS Precautionary Statements:

- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 - Wash skin thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Seek medical attention.
- 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.
- P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
- P333+313 - If skin irritation or a rash occurs: Get medical advice/attention.
- P363 - Wash contaminated clothing before reuse.
- P403+233 - Store in a well ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents/container to an approved waste disposal plant.
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER/ doctor/...if you feel unwell.

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)

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COMPOSITION/INFORMATION OF INGREDIENTS
Ingredients:

Cas#	%	Chemical Name
10222-01-2	20.0%	2,2-Dibromo-3-nitrilopropionamide
25322-68-3	46.5-54.5%	Polyethylene glycols
7647-15-6	<4.0%	Sodium bromide (NaBr)
3252-43-5	<0.5%	Acetonitrile, dibromo-

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FIRST AID MEASURES

- Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.
- Skin Contact:** Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be immediately available.
- Eye Contact:** Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.
- Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass

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of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment

5**FIRE FIGHTING MEASURES**

Flash Point:	>182°C
Flash Point Method:	Cleveland Open Cup
Burning Rate:	Not determined
Autoignition Temp:	Not determined
LEL:	Not determined
UEL:	Not determined

Extinguishing Media:

Suitable: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

Unsuitable: Do not use direct water stream. May spread fire.

Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen bromide. Carbon monoxide. Carbon dioxide.

Unusual Fire or Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn. Container may rupture from gas generation in a fire situation.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. If product becomes contaminated with water, monitor product for heat generation and/or decomposition. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus

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(SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective equipment, emergency procedures: Avoid contact with the material. See section 8 of SDS 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.

Regulatory Requirements: Dispose of recovered material in accordance with all applicable state and federal regulations.

7 HANDLING AND STORAGE

Handling Precautions: Keep out of reach of children. Do not get in eyes, on skin, on clothing. Avoid breathing mist. Avoid prolonged or repeated contact with skin. Do not swallow. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage Requirements: Store in original container. Keep container tightly closed. Do not store in: Aluminum. Brass. Copper. Copper alloys. Mild steel. Stainless steel.

Shelf life: use within 12 months

Storage temperature: $\leq 95^{\circ}\text{F}$

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Personal Protective Equipment: HMIS PP, C | Safety Glasses, Gloves, Apron

Respiratory protection: If needed use MSHA/NIOSH approved respirator. 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:

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Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Polyethylene glycol	US WEEL	TWA aerosol	10 mg/m ³
2,2-Dibromo-3-nitropropionamide	Dow IHG	C	2 mg/m ³
Sodium bromide	Dow IHG	TWA	6 mg/m ³
Dibromoacetonitrile	Dow IHG	C	0.1 ppm
	Dow IHG	C	SKIN

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PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless to brown	Odor:	Odorless to mild
Physical State:	Liquid	Solubility:	7.5% @ 20°C
Odor Threshold:	Not determined	Freezing/Melting Pt.:	< -50°C
Spec Grav./Density:	10.01-10.84 lb/gal	Flash Point:	182°C (Cleveland Open Cup)
Viscosity:	20 cps @ 25°C (dynamic)	Vapor Density:	Not determined
Boiling Point:	>70°C	Auto-Ignition Temp:	Not determined
Partition Coefficient:	Not determined	UFL/LFL:	Not determined
Vapor Pressure:	18.9 mm Hg @ 25°C		
pH:	1.5-5.0		
Evap. Rate:	Not determined		
Decomp Temp:	Not determined		

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STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended storage conditions. See Storage, Section 7.
Conditions to Avoid:	Avoid temperatures above 70°C (158°F) Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.
Materials to Avoid:	Avoid contact with: Oxidizers. Strong bases. Avoid contact with metals such as: Aluminum.
Hazardous Decomposition:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Bromine. Cyanogen bromide. Dibromoacetonitrile.
Hazardous Polymerization:	Will not occur.

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TOXICOLOGICAL INFORMATION

Acute Toxicity:

Low toxicity if swallowed. Swallowing may results in burns of the mouth, throat, and GI tract. May cause dizziness and drowsiness.

Oral LD₅₀ (rat) 510 mg/kg

Prolonged skin contact is unlikely to results in absorption of harmful amounts.

Dermal LD₅₀ (rabbit) >2,000 mg/kg

Mist may cause irritation of upper respiratory tract (nose and throat)

Inhalation LC₅₀ (female rat) 1.25 mg/L (4hr)

Inhalation LC₅₀ (male rat) 1.40 mg/L (4hr)

Skin Corrosion/Irritation: Brief contact may cause skin burns.

Serious eye damage/irritation: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

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Respiratory or skin sensitization: Similar materials had caused allergic skin reaction when tests on guinea pigs. Did not cause allergic skin reaction when tested in humans. Not a respiratory sensitizer.

Germ cell mutagenicity: Not a suspected mutagen.

Carcinogenicity: Dibromoacetonitrile is listed as Group 2B: Possibly carcinogenic to human by the IRAC.

Reproductive Toxicity: No data available

Specific target organ toxicity (single exposure): May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): Excessive exposure may increase bromine levels in blood and tissue. Observations in animals include kidney effects following repeated ingestion of active ingredient, but no evidence of systemic toxicity following repeated dermal exposure at maximum attainable doses.

Aspiration hazard: Not likely to be an aspiration hazard.

12**ECOLOGICAL INFORMATION****Aquatic Toxicity**

Material is moderately toxic to aquatic organisms on an acute basis (LC_{50}/EC_{50} between 1 and 10 mg/L in the most sensitive species tested).

LC_{50} , *Oncorhynchus mykiss* (rainbow trout) 96hr, 3.6 mg/L

EC_{50} , *Daphnia magna* (Water flea), static test, 48hr, 2.5 mg/L

ErC_{50} , *Pseudokirchneriella subcapitata* (Green algae), 72 hr, Growth rate inhibition, 1.5 mg/L

NOEC, *Pseudokirchneriella subcapitata* (Green algae), Growth rate inhibition, 0.1 mg/L

Elimination (persistence & degradability): No data available

Bioaccumulative potential:

Polyethylene glycol

Bioaccumulation: No relevant data found

2,2-Dibromo-3-nitrilopropionamide

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).

Partition coefficient: n-octanol/water(log Pow): 0.79 Measured

Bioconcentration factor (BCF): 13 Fish Measured

Sodium bromide

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).

Bioconcentration factor (BCF): < 40 Fish Measured

Dibromoacetonitrile

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).

Partition coefficient: n-octanol/water(log Pow): 1.56 Measured

Mobility in soil:**Polyethylene glycol**

No relevant data found.

2,2-Dibromo-3-nitrilopropionamide

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): 15 Estimated.

Sodium bromide

No relevant data found.

Dibromoacetonitrile

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): 13 Estimated.

Other adverse effects: No data available

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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, PGIII, (2,2-Dibromo-3-nitrilopropionamide)

DOT Transportation data (49 CFR 172.101)

15 REGULATORY INFORMATION**Component (CAS#) [%] - CODES**

2,2-Dibromo-3-nitrilopropionamide (10222-01-2) [20.0%] SARA313, TSCA
Polyethylene glycols (25322-68-3) [46.5-54.5%] TSCA
Sodium bromide (NaBr) (7647-15-6) [<4.0%] TSCA
Acetonitrile, dibromo- (3252-43-5) [<3.0%] TSCA

Regulatory CODE Descriptions

SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act

EPA / CERCLA / SARA TITLE III:

CERCLA List: This product does not contain any CERCLA listed hazardous substances.

Extremely Hazardous Substance (SARA 302/304): This product does not contain any extremely hazardous substances subject to emergency planning requirements.

SARA 312: Acute

California Proposition 65: This product does not contain any chemicals known to the state of California to cause cancer, birth defects, or any other reproductive harm.

RCRA: Corrosive, D002

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16**OTHER INFORMATION**

HMIS III: Health = 3, Fire = 1, Physical Hazard = 1

HMIS PPE: C - Safety Glasses, Gloves, Apron

HMIS	
HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	1
PERSONAL PROTECTION	C

Author: U.S. Water Services**Revision Notes:** Updated to GHS format**Disclaimer:**

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