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| FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:       | 1-800-654-6911 (OUTSIDE USA: 1-423-780-2970) |
| FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®: | 1-800-424-9300 (OUTSIDE USA: 1-703-527-3887) |
| FOR ALL SDS QUESTIONS & REQUESTS, CALL:           | 1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347) |

**PRODUCT NAME: BAQUACIL Swimming Pool Sanitizer & Algistat**  
EPA Registration Number: 1258-1263

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

|   |                   |                      |
|---|-------------------|----------------------|
| <b>Arch Chemicals, Inc.</b><br>1200 Bluegrass Lakes Parkway<br>Alpharetta, GA 30004 | REVISION DATE:    | 05/27/2015           |
|   | SUPERCEDES:       | 11/11/2009           |
|   | MSDS Number:      | 000000022752         |
|   | SYNONYMS:         | None                 |
|   | CHEMICAL FAMILY:  | Biguanide            |
|   | DESCRIPTION / USE | Sanitizer & Algistat |
|   | FORMULA:          | None established     |

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitisation : Category 1

Specific target organ toxicity - repeated exposure : Category 1

### GHS Label element

Hazard pictograms : 

Signal word : Danger

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H372 Causes damage to organs through prolonged or repeated



exposure.

Precautionary statements

- : **Prevention:**  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear eye protection/ face protection.  
P280 Wear protective gloves.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 + P310 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.  
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
**Storage:**  
P402 + P404 Store in a dry place. Store in a closed container.  
P410 + P403 Protect from sunlight. Store in a well-ventilated place.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>CAS OR CHEMICAL NAME</u>                | <u>CAS #</u> | <u>% RANGE</u> |
|--|--------------|----------------|
| Water                                      | 7732-18-5    | 80             |
| Poly(hexamethylenebiguanide) hydrochloride | 32289-58-0   | 20             |



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## SECTION 4. FIRST AID MEASURES

|                 |  |
|-----------------|--|
| General Advice: | Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. |
| Inhalation:     | IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.  |
| Skin Contact:   | IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.  |
| Eye Contact:    | IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.  |
| Ingestion:      | IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.      |

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## SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA): Product is not known to be flammable, combustible, pyrophoric or explosive.

### Flammable Properties

|  |  |
|--|--|
| Flash Point:                                 | boils without flashing   |
| Autoignition Temperature:                    | Not applicable   |
| Fire / Explosion Hazards:                    | Material will not ignite or burn.  |
| Extinguishing Media:                         | Choose extinguishing media suitable for surrounding materials.   |
| Fire Fighting Instructions:                  | In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus. Use water to cool containers. |
| Hazardous Combustion Products:               | Carbon monoxide, Carbon dioxide  |
| Upper Flammable / Explosive Limit, % in air: | Not applicable   |
| Lower Flammable / Explosive Limit, % in air: | Not applicable   |

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.



Spill Mitigation Procedures

|                                |  |
|--------------------------------|--|
| Air Release:                   | Hazardous concentrations in air may be found in local spill area and immediately downwind. Contain all liquids for treatment or disposal.  |
| Water Release:                 | Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so. Contain all liquids for treatment or disposal.  |
| Land Release:                  | Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Contain all liquids for treatment or disposal. Avoid runoff into storm sewers and ditches which lead to waterways. |
| Additional Spill Information : | Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Stop source of spill as soon as possible and notify appropriate personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.   |

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## SECTION 7. HANDLING AND STORAGE

|                                     |  |
|-------------------------------------|--|
| Handling:                           | Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing (dust, vapor, mist, gas). |
| Storage:                            | Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) closed.                   |
| Incompatible Materials for Storage: | Refer to Section 10, "Incompatible Materials."   |

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

|              |  |
|--------------|--|
| Ventilation: | Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation. |
|--------------|--|

Protective Equipment for Routine Use of Product

|                              |   |
|------------------------------|---|
| Respiratory Protection :     | If vapors, mists or aerosols are generated, wear a NIOSH approved respirator.   |
| Respirator Type :            | A NIOSH approved disposable P95 Acid Gases Respirator with Exhalation Valve.  |
| Skin Protection :            | Use impervious gloves. When exposure to high concentrations are prolonged or repeated use protective boots and apron in addition to gloves. |
| Eye Protection:              | Use chemical goggles.   |
| Protective Clothing Type:    | Impervious  |
| General Protective Measures: | An eye wash and safety shower should be provided in the immediate work area.  |

### Components with workplace control parameters

no data available



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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |   |
|--|---|
| Physical State:                        | liquid  |
| Form                                   | liquid  |
| Color:                                 | Blue  |
| Odor:                                  | Perfume   |
| Molecular Weight:                      | None established  |
| pH :                                   | 5.0 - 6.0   |
| Boiling Point:                         | 210.00 °F (98.89 °C )   |
| Freezing Point:                        | No data   |
| Density:                               | No data   |
| Vapor Pressure:                        | No data   |
| Vapor Density:                         | No data   |
| Viscosity:                             | No data   |
| Fat Solubility:                        | No data   |
| Solubility in Water:                   | Soluble   |
| Partition coefficient n-octanol/water: | No data   |
| Evaporation Rate:                      | No data   |
| Oxidizing:                             | No data   |
| Volatiles, % by vol.:                  | No data   |
| VOC Content                            | This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489). This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450. |
| HAP Content                            | No data   |

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## SECTION 10. STABILITY AND REACTIVITY

|                                   |   |
|-----------------------------------|---|
| Stability and Reactivity Summary: | Stable under normal conditions. Product will not undergo hazardous polymerization.  |
| Conditions to Avoid:              | Avoid contamination.  |
| Chemical Incompatibility:         | copper, silver, sodium hydroxide, metals  |
| Hazardous Decomposition Products: | Carbon monoxide, Carbon dioxide, nitrogen oxides, Ammonia, Halogens, halogen acids, possible trace amounts of carbonyl halide |
| Decomposition Temperature:        | No data   |

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Component Animal Toxicology

#### Oral LD50 value:

|  |                  |            |
|--|------------------|------------|
| Poly(hexamethylenebiguanide) hydrochloride | LD50 = 501 mg/kg | Rat female |
|  | LD50 = 549 mg/kg | Rat male   |



Component Animal Toxicology

Dermal LD50 value:

Poly(hexamethylenebiguanide) hydrochloride LD50 > 5,000 mg/kg Rat

Component Animal Toxicology

Inhalation LC50 value:

Poly(hexamethylenebiguanide) hydrochloride This product has been tested for acute inhalation toxicity. However, due to the physical nature of the product, an aerosol dust of desired particle size could not be generated. Therefore, no animals could be exposed and no LC50 could be obtained.

Product Animal Toxicity

Oral LD50 value: LD50 Approximately 2,500 mg/kg Rat female LD50 Approximately 2,700 mg/kg Rat male

Dermal LD50 value: LD50 > 2,000 mg/kg Rabbit

Inhalation LC50 value: No data

Skin Irritation: Moderate Skin Irritant

Eye Irritation: This material is expected to be moderately irritating.

Skin Sensitization: Possible skin sensitizer based on animal tests, PHMB when tested at 1.0% in the HRIPT, PHMB did not produce irritation or allergic skin reactions.

Poly(hexamethylenebiguanide)  
hydrochloride

Acute Toxicity: May cause skin, eye and mucous membrane irritation (includes upper respiratory tract). Ingestion may cause gastrointestinal discomfort.

Subchronic / Chronic Toxicity: Not known or reported to cause subchronic or chronic toxicity.

Reproductive and Developmental Toxicity: No reproductive or developmental risk to humans is expected from exposure to this product. The active ingredient in this product has been tested in laboratory animals and no evidence of teratogenicity or reproductive toxicity was seen.

Poly(hexamethylenebiguanide)  
hydrochloride

This chemical has been tested in laboratory animals and there was no evidence of reproductive toxicity or teratogenicity.

Mutagenicity: Not known or reported to be mutagenic. The active ingredient in this product has been tested in a battery of mutagenicity assays and was found to be non-mutagenic under the conditions of the tests.

Poly(hexamethylenebiguanide)  
hydrochloride

This chemical has been tested in a battery of mutagenicity/genotoxicity assays and the results were negative.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference



source including IARC, OSHA, NTP or EPA.

Poly(hexamethylenebiguanide)  
hydrochloride

PHMB, when administered to mice at very high doses, induced an increased incidence of cancer in mice. Under the conditions of anticipated use of this product, PHMB does not represent a risk to man.

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## SECTION 12. ECOLOGICAL INFORMATION

Overview: Ecotoxicity: Polyaminopropyl Biguanide is highly/very toxic to aquatic species. It is unlikely to bioaccumulate or persist in the aquatic environment., Environmental fate: Polyaminopropyl Biguanide will be predominantly absorbed onto sludge solids; the remainder is unlikely to be readily or inherently biodegraded or abiotically degraded with the exception of low molecular weight species., Polyaminopropyl Biguanide could be slightly inhibitory to sewage treatment systems. However, at the low concentrations typically discharged to and received by treatment systems, adverse impacts are unlikely. Polyaminopropyl Biguanide is unlikely to adversely affect plants or soil indigenous species.

### Ecological Toxicity Values for: Poly(hexamethylenebiguanide) hydrochloride

|   |  |
|---|--|
| Rainbow trout ( <i>Salmo gairdneri</i> ),     | - 96 h LC50 = 0.026 mg/l   |
| Bluegill sunfish                              | - 96 h LC50 0.11 mg/l  |
| Fish  | - chronic toxicity The Lowest Observable Effect Concentration (LOEC): > 0.010 mg/l   |
| Fish  | - chronic toxicity The No Observable Effect Concentration (NOEC): = 0.010 mg/l   |
| Oncorhynchus mykiss (rainbow trout)           | - flow-through test 96 h LC50 0.026 mg/l   |
| Daphnia magna,                                | - 48 h EC50= 0.04 mg/l   |
| Brown Shrimp                                  | - 96 h LC50= 9 mg/l  |
| Daphnia magna,                                | - 21 day NOEC (chronic toxicity) The No Observable Effect Concentration (NOEC):= 0.0036 mg/l   |
| Daphnia magna (Water flea)                    | - 48 h EC50 0.09 mg/l  |
| Green algae,                                  | - 96 h EC50 = 0.49 - 0.87 mg/l   |
| Pseudokirchneriella subcapitata (green algae) | - 72 h ErC50 0.0191 mg/l   |
|   | - In an assessment of the effect of PHMB on nitrification of activated sludge micro-organisms the 4hr EC50 was 38 mg/l and the NOEC = 12 mg/l. |
| Bacteria                                      | - 4 h EC50 38 mg/l   |

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## SECTION 13. DISPOSAL CONSIDERATIONS



**CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.**

Waste Disposal Summary : If this product becomes a waste, it will be a nonhazardous waste according to U.S. RCRA regulations. Dispose of in accordance with all Local, State, Federal, and Provincial Environmental Regulations.

Disposal Methods : As a nonhazardous waste, it should be disposed of in accordance with local, state and federal regulations.

Potential US EPA Waste Codes : Not applicable

## SECTION 14. TRANSPORT INFORMATION

### DOT

UN number : 3082  
Description of the goods : Environmentally hazardous substance, liquid, n.o.s.  
(Poly(hexamethylenebiguanide) hydrochloride)  
Class : 9  
Packing group : III  
Labels : 9  
Emergency Response : 171  
Guidebook Number

### TDG

UN number : 3082  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(Poly(hexamethylenebiguanide) hydrochloride)  
Class : 9  
Packing group : III  
Labels : 9

### IATA

UN number : 3082  
Description of the goods : Environmentally hazardous substance, liquid, n.o.s.  
(Poly(hexamethylenebiguanide) hydrochloride)  
Class : 9  
Packing group : III  
Labels : 9MI  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964  
Packing instruction : Y964





(passenger aircraft)

**IMDG-CODE**

UN number : 3082  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(Poly(hexamethylenebiguanide) hydrochloride)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Number 1 : F-A  
EmS Number 2 : S-F  
Marine pollutant : yes

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## SECTION 15. REGULATORY INFORMATION

**This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.**

Signal word : WARNING!  
Hazard statements : Harmful if swallowed.  
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.  
This pesticide is toxic to fish.

### EPCRA - Emergency Planning and Community Right-to-Know Act

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).



This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

#### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

#### **US State Regulations**

##### **Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

##### **Pennsylvania Right To Know**

Poly(hexamethylenebiguanide) hydrochloride 32289-58-0

##### **New Jersey Right To Know**

Poly(hexamethylenebiguanide) hydrochloride 32289-58-0

##### **California Prop 65**

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 : This is an EPA registered pesticide.

#### **Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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## **SECTION 16. OTHER INFORMATION**

SECTIONS REVISED: 1  
Major References : Available upon request.



**Arch  
Chemicals,  
Inc.**

**SAFETY DATA SHEET**

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT. .