



**Arch  
Chemicals,  
Inc.**

**MATERIAL SAFETY  
DATA SHEET**

FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL: 1-800-654-6911  
 FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®: 1-800-424-9300  
 FOR ALL MSDS QUESTIONS & REQUESTS, CALL: 1-800-511-MSDS

PRODUCT NAME: **BAQUACIL Flocculant**

**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204</b>	REVISION DATE:	01/16/2007
	SUPERCEDES:	02/13/2003
	MSDS Number:	100000002187
	SYNONYMS:	Aluminum sulfate
	CHEMICAL FAMILY:	Not Applicable/Mixture
	DESCRIPTION / USE:	Water Clarifier
	FORMULA:	None established

**2. HAZARDS IDENTIFICATION**

OSHA Hazard Classification:	<b>Skin irritant, Moderate to Severe Eye Irritant, Possible respiratory irritant</b>
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Routes of Entry:	Inhalation, skin, eyes, ingestion
Chemical Interactions:	No known or reported interactions.
Medical Conditions Aggravated:	None known or reported

Human Threshold Response Data

Odor Threshold	Not established.
Irritation Threshold	Not established.

**Hazardous Materials Identification System / National Fire Protection Association Classifications**

<u>Hazard Ratings :</u>	<u>Health</u>	<u>Flammability</u>	<u>Physical / Instability</u>	<u>PPI / Special hazard.</u>
HMIS	2	0	1	
NFPA	2	0	1	

Immediate (Acute) Health Effects

Inhalation Toxicity:	Inhalation of dust may cause irritation to the mucous membranes of the respiratory tract. Any irritation would be transient with no permanent damage expected. Not expected to be toxic by inhalation.
Skin Toxicity:	Skin contact may cause moderate irritation consisting of transient redness and swelling. This irritant effect would not be expected to result in permanent damage. Not expected to be toxic from dermal contact.



Eye Toxicity: May cause moderate to severe irritation, consisting of redness, swelling, and mucous membrane discharge to the conjunctiva. No corneal involvement or visual impairment is expected.

Ingestion Toxicity: Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting or diarrhea. Slightly toxic if swallowed.

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

Prolonged (Chronic) Health Effects

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. Chemicals of similar structure have been shown not to cause cancer in laboratory animals.

Reproductive and Developmental Toxicity: There are no known or reported effects on reproductive function or fetal development.

Inhalation: There are no known or reported effects from chronic exposure.

Skin Contact: There are no known or reported effects from chronic exposure except for effects (if any) similar to those experienced from acute exposure.

Skin Absorption: There are no known or reported effects from chronic exposure.

Ingestion: There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.

Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Chronic Target Organ Toxicity: There are no known or reported target organ effects from chronic exposure.

Supplemental Health Hazard Information : No additional health information available.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

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<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
Aluminum Sulfate	17927-65-0	57 -
Water	7732-18-5	43 -

**4. FIRST AID MEASURES**

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Inhalation: IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops.

Skin Contact: IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. If clothing comes in contact with the product, the clothing should be removed immediately and laundered before re-use. Seek medical attention.

Eye Contact: IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.



Ingestion: IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person.

## 5. FIRE FIGHTING MEASURES

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

### Flammable Properties

Flash Point: Not applicable  
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.  
Hazardous Combustion Products: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.  
Upper Flammable / Explosive Limit, % in air: Not applicable  
Lower Flammable / Explosive Limit, % in air: Not applicable

## 6. ACCIDENTAL RELEASE MEASURES

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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 solids for treatment or disposal.  
Water Release: This material is soluble in water. Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so.  
Land Release: Sweep up and place in suitable clean, dry containers for reclamation or later disposal. Do not place spill materials back in their original containers. Contain all solids for treatment or disposal.  
Additional Spill Information : Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.

## 7. HANDLING AND STORAGE

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Handling: Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid inhalation of dust and fumes.



Storage: Store in a cool, dry and well ventilated place. Store in tightly closed containers to prevent moisture contamination. Avoid creating dusts.  
Incompatible Materials for Storage: strong alkalis water reactive materials  
Empty Container Warning: Empty containers retain hazardous residue, dispose of accordingly.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

### Protective Equipment for Routine Use of Product

Respiratory Protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.  
Respirator Type : Wear a NIOSH approved N95 respirator.  
Skin Protection : Wear impervious gloves to avoid skin contact. A safety shower should be provided in the immediate work area.  
Eye Protection: Use chemical goggles. Emergency eyewash should be provided in the immediate work area.  
Protective Clothing Type: Impervious

### Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
Aluminum Sulfate	17927-65-0	ACGIH	2 mg/m3 TWA

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: solid  
Form: granules or powder  
Color: white  
Odor: None  
Molecular Weight: No data  
Specific Gravity : No data  
pH : 3.3 Aqueous solution  
Boiling Point: 117 °C / 242 °F  
Freezing Point: No data  
Melting Point: 105 °C / 221 °F  
Density: <98.0000lb/ft3  
Vapor Pressure: Not applicable  
Vapor Density: No data  
Viscosity: No data  
Fat Solubility: No data  
Solubility in Water: Soluble  
Partition coefficient n-octanol/water: No data  
Evaporation Rate: Not applicable  
Oxidizing: No data  
Volatiles, % by vol.: 0.000%  
VOC Content: No data



HAP Content

No data

## 10. STABILITY AND REACTIVITY

Stability and Reactivity Summary: Stable under normal conditions. Product will not undergo hazardous polymerization.

Conditions to Avoid: Sparks, open flame, other ignition sources, and elevated temperatures., Contact with incompatible substances

Chemical Incompatibility: alkalis, water reactive materials

Hazardous Decomposition Products: Thermal oxidative decomposition of aluminum sulfate occurs at temperatures greater than 1400° F (760° C) and can produce sulfur oxides.

Decomposition Temperature: No data

## 11. TOXICOLOGICAL INFORMATION

### Component Animal Toxicology

#### Oral LD50 value:

Aluminum Sulfate LD50 (anhydrous aluminum sulfate) = 6,207 mg/kg Mouse  
Aluminum Sulfate LD50 (anhydrous aluminum sulfate) = 1,930 mg/kg Rat

#### Dermal LD50 value:

Aluminum Sulfate LD50 (anhydrous aluminum sulfate) Believed to be > 2,000 mg/kg Rabbit

#### Inhalation LC50 value:

Aluminum Sulfate No data

### Product Animal Toxicity

Oral LD50 value: LD50 Believed to be > 2,000 mg/kg Rat

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

Inhalation LC50 value: No data

Skin Irritation:

This material is expected to be moderately irritating.

Eye Irritation:

This material is expected to be moderately to severely irritating.

Skin Sensitization:

This material is not known or reported to be a skin or respiratory sensitizer.

Acute Toxicity:

May cause skin, eye and mucous membrane irritation (includes upper respiratory tract). May cause lethargy and diarrhea from ingestion.

Subchronic / Chronic Toxicity:

Not known or reported to cause subchronic or chronic toxicity.

Reproductive and Developmental Toxicity:

Not known or reported to cause reproductive or developmental toxicity.

Mutagenicity:

This product has been tested for mutagenicity. Tests revealed both positive and negative results.

Carcinogenicity:

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. Chemicals of similar structure have been shown not to cause cancer in laboratory animals.



## 12. ECOLOGICAL INFORMATION

Overview: Practically non- toxic to fish and other aquatic organisms.

### Ecological Toxicity Values for: Aluminum Sulfate

Largemouth bass	-	96 HOUR LC50 = 250 mg/l (anhydrous aluminum sulfate)
Mosquito fish	-	96 HOUR LC50 = 235 mg/l (anhydrous aluminum sulfate)

## 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 DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

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

## 14. TRANSPORT INFORMATION

Land (US DOT): NOT REGULATED AS A DOT HAZARDOUS MATERIAL  
Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL,

Flash Point: Not applicable  
Air (IATA): NOT REGULATED AS A HAZARDOUS MATERIAL,  
Emergency Response Guide Number: Not applicable

## 15. REGULATORY INFORMATION

### **UNITED STATES:**

Toxic Substances Control Act (TSCA): The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

EPA Pesticide Registration Number: None established

FIFRA Listing of Pesticide Chemicals (40 CFR 180): Not registered in the US under FIFRA.

### **Superfund Amendments and Reauthorization Act (SARA) Title III:**

Hazard Categories Sections 311 / 312 (40 CFR 370.2):



Health  
Physical

Immediate (Acute) Health Hazard  
None

**Emergency Planning & Community Right to Know (40 CFR 355, App. A):**

**Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:**

SARA III Threshold Planning Quantity: None established

**Reportable Quantity (49 CFR 172.101, Appendix):**

CERCLA Reportable quantity: ALUMINUM SULFATE  
Value: 5,000lbs

SARA III Reportable quantity: None established

**Supplier Notification Requirements (40 CFR 372.45), 313 Reportable Components**

SARA III De minimis concentration: None established

**Clean Air Act Toxic ARP Section 112r:**

CAA 112R None established

**Clean Air Act Socmi:**

HON SOC None established

**Clean Air Act VOC Section 111:**

CAA 111 None established

**Clean Air Act Haz. Air Pollutants Section 112:**

CAA None established

CAA 112I None established

CAA AP None established

**State Right-to-Know Regulations Status of Ingredients**

**Pennsylvania:**

CAS #	COMPONENT NAME
10043-01-3	ALUMINUM SULFATE, ANHYDROUS

PENN RTK

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

PENN RTK  
08 1989  
SULFURIC ACID, ALUMINUM SALT (3:2)

**New Jersey:**

CAS #	COMPONENT NAME
NJ RTK	None established

**Massachusetts:**

CAS #	COMPONENT NAME
10043-01-3	ALUMINUM SULFATE, ANHYDROUS



MASS RTK

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

MASS RTK  
04 1993  
ALUMINUM SULFATE

**California Proposition 65:**

CAS #	COMPONENT NAME
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US CA CRT                      None established

US CA65CRT                    None established

**WHMIS Hazard Classification:**

WHMIS                              None established

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## 16. OTHER INFORMATION

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MSDS REVISION STATUS :      Revised to meet the ANSI standard of 16 sections  
Major References :              Available upon request.

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. .