Arch Chemicals, Inc.

MATERIAL SAFETY DATA SHEET

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 MSDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: **HTH® FLOCCULANT**

1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc.
501 Merritt 7 PO Box 5204
Norwalk, CT 06856-5204

REVISION DATE:	04/12/2013
SUPERCEDES:	
MSDS Number:	000000016052
SYNONYMS:	None
CHEMICAL FAMILY:	Not Applicable/Mixture
DESCRIPTION / USE	Swimming pool water treatment
FORMULA:	Not Applicable/Mixture

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	**Corrosive to skin, Corrosive to eyes, Possible respiratory irritant**

Routes of Entry: Eyes Skin Ingestion Inhalation
Chemical Interactions: None known.
Medical Conditions Aggravated: None known.

Human Threshold Response Data

Odor Threshold Not established for product.

Irritation Threshold Not established for product.

Hazardous Materials Identification System / National Fire Protection Association Classifications

Hazard Ratings :	Health	Flammability	Physical / Instability	PPI / Special hazard.
HMIS	3	0	0	
NFPA	3	0	0	

Immediate (Acute) Health Effects

Inhalation Toxicity:	Not expected to be an inhalation hazard at ambient conditions. If product is heated, inhalation of high concentrations of vapors or mist may cause severe irritation to mucous membranes.
Skin Toxicity:	Causes skin burns. Not expected to be toxic from dermal contact.
Eye Toxicity:	Causes eye burns.
Ingestion Toxicity:	Causes digestive tract burns. Not expected to be toxic by ingestion.
Acute Target Organ Toxicity:	This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract.

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.
Reproductive and Developmental Toxicity:	Not known or reported to cause reproductive or developmental toxicity.
Inhalation:	There are no known or reported effects from chronic exposure except for effects similar to those experienced from acute 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.
Ingestion:	There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure. The acute corrosivity of this product, makes chronic ingestion of significant amounts unlikely.
Eye Contact:	Prolonged contact may result in permanent damage. Corneal involvement or visual impairment is expected.
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 data available

3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
ALUMINUM CHLORIDE	7446-70-0	15.0
2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C	26062-79-3	2.0

4. FIRST AID MEASURES

Inhalation:	IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance.
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 if irritation develops.
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.
Notes to Physician:	Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA):	Product is not known to be flammable, combustible, pyrophoric or explosive.
Flammable Properties	
Flash Point:	Not applicable
Autoignition Temperature:	No data
Fire / Explosion Hazards:	Material will not ignite or burn.
Extinguishing Media:	Choose extinguishing media suitable for surrounding materials.
Fire Fighting Instructions:	Use water spray to cool unopened containers. 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: No data

Lower Flammable / Explosive Limit, % in air: No data

6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations:	Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus.
Spill Mitigation Procedures	
Air Release:	Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog.
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:	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. After removal, flush contaminated area thoroughly with water. Avoid runoff into storm sewers and ditches which lead to waterways.
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

Handling:	Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapor.
Storage:	Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Do not freeze.
Incompatible Materials for Storage:	Refer to Section 10, "Incompatible Materials."
Empty Container Warning:	Empty containers retain hazardous residue, dispose of accordingly.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:	Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.No exposure limits exist for the constituents of this product.

Protective Equipment for Routine Use of Product

Respiratory Protection :	Respiratory protection not normally needed. If vapors, mists or aerosols are generated, wear a NIOSH approved respirator. Wear a NIOSH approved N95 respirator.
Skin Protection :	Avoid contact with skin. Impervious gloves Boots Apron A full impervious suit is recommended if exposure is possible to a large portion of the body.
Eye Protection:	Chemical resistant goggles must be worn. Face-shield
Protective Clothing Type:	impervious clothing
General Protective Measures:	Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Limit Data

CHEMICAL NAME	CAS #	Name of Limit	Exposure
No Data Found			

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	liquid
Color:	Blue
Odor:	None
Molecular Weight:	No data
Specific Gravity :	1.13
pH :	1.5 - 2.0
Boiling Point:	104 DEG°C / 220 DEG°F
Freezing Point:	No data
Melting 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	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:	High temperatures, Avoid freezing.
Chemical Incompatibility:	Oxidizing agents, Metals, alkalis
Hazardous Decomposition Products:	hydrochloric acid
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:

ALUMINUM CHLORIDE	LD50	=	3,450 mg/kg	rat
2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C	LD50	>	5,000 mg/kg	Rat

Component Animal Toxicology
Dermal LD50 value:

ALUMINUM CHLORIDE	LD50	>	2,000 mg/kg	rabbit
2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C	LD50	>	20,000 mg/kg	Rabbit

Component Animal Toxicology
Inhalation LC50 value:

ALUMINUM CHLORIDE	LC50	no data available
2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C	No data	

Product Animal Toxicity

Oral LD50 value:	LD50	Believed to be >	5,000 mg/kg	rat
Dermal LD50 value:	LD50	Believed to be >	2,000 mg/kg	rabbit
Inhalation LC50 value:	No data.			
Skin Irritation:	Corrosive to skin			

Eye Irritation: Corrosive to eyes
Skin Sensitization: Not believed to be sensitising to skin.

Acute Toxicity: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract.
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: Not known or reported to be mutagenic.
ALUMINUM CHLORIDE This material has been shown to be non-mutagenic in the majority of a battery of assays. Not expected to be a mutagenic hazard.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

12. ECOLOGICAL INFORMATION

Overview: Slightly toxic to fish and other aquatic organisms.

Ecological Toxicity Values - Product:

- LC50 Believed to be approximately 10.8 mg/l (calculated)

Ecological Toxicity Values for: **ALUMINUM CHLORIDE**

Rainbow trout (Oncorhynchus mykiss)	-	96 h LC50 6.1 mg/l
Mosquito fish	-	96 h LC50 27.1 mg/l
Daphnia magna,	-	48 h LC50 3.9 mg/l

Ecological Toxicity Values for: **2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C**

Bluegill sunfish	-	96 h LC50 = 0.82 - 1.3 mg/l, (40% Solution)
Rainbow trout (Salmo gairdneri),	-	96 h LC50 0.37 mg/l (40% Solution)
Daphnia magna,	-	48 h LC50= 0.9 mg/l (In clear water), (40% Solution)
Daphnia magna,	-	48 h LC50= 1.2 - 2.5 mg/l, (In 50 ppm clay suspension), (40% Solution)
Daphnia magna,	-	48 h LC50= 24.8 mg/l (In 1000 ppm clay suspension), (40% Solution)

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 hazardous waste.
Disposal Methods :	As a hazardous liquid waste it must be disposed of in accordance with local, state and federal regulations.
Potential US EPA Waste Codes :	D002

14. TRANSPORT INFORMATION

Land (US DOT): UN2581 ALUMINUM CHLORIDE SOLUTION 8 III
Water (IMDG): UN2581 ALUMINUM CHLORIDE SOLUTION, 8 III Marine Pollutant: No

Flash Point: Not applicable
Air (IATA): UN2581 ALUMINUM CHLORIDE SOLUTION, 8 III

Emergency Response Guide Number:	ERG # 154
Transportation Notes**:**	Under specific circumstances, this product can ship under two transport exceptions, Limited Quantity or Consumer Commodity. See Bill of Lading for proper shipping description.
EMS:	F-A, S-B

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	Immediate (Acute) Health Hazard
Physical	None

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

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:

ZUS_SAR302	TPQ (threshold planning quantity)	None established

Reportable Quantity (49 CFR 172.101, Appendix):

ZUS_CERCLA	Reportable quantity	None established
ZUS_SAR302	Reportable quantity	None established

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

ZUS_SAR313	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:

ZUS_CAAHAP	None established
ZUS_CAAHRP	None established
CAA AP	None established

State Right-to-Know Regulations Status of Ingredients

Pennsylvania:

CAS #	COMPONENT NAME
7446-70-0	ALUMINUM CHLORIDE

ZUSPA_RTK

Pennsylvania: Hazardous substance list

1989-08-11
ALUMINUM CHLORIDE

New Jersey:

CAS #	COMPONENT NAME
7446-70-0	ALUMINUM CHLORIDE

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
ALUMINUM CHLORIDE
Special Health Hazard - Corrosive, Special Health Hazard - Reactive - Second Degree

Massachusetts:

CAS #	COMPONENT NAME
7446-70-0	ALUMINUM CHLORIDE

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
ALUMINUM CHLORIDE

California Proposition 65:

CAS #	COMPONENT NAME

ZUSCA_P65 None established

WHMIS Hazard Classification:

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
470
Aluminum chloride

16. OTHER INFORMATION

MSDS REVISION STATUS :
SECTIONS REVISED: First formulated version in SAP.
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. .