



**Arch
Chemicals,
Inc.**

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 SDS QUESTIONS & REQUESTS, CALL:

1-800-511-MSDS (OUTSIDE
USA: 1-423-780-2347)

PRODUCT NAME: HTH DROP OUT FLOCCULANT

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc.
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004

REVISION DATE: 02/24/2016

SUPERCEDES: 05/26/2015

MSDS Number: 000000026383

SYNONYMS: none

CHEMICAL FAMILY: Not Applicable/Mixture

DESCRIPTION / USE: Swimming pool water treatment

FORMULA: Not Applicable/Mixture

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion : Category 1B

Serious eye damage : Category 1

Specific target organ toxicity -
repeated exposure : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
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/doctor.
P314 Get medical advice/ attention if you feel unwell.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
ALUMINUM CHLORIDE	7446-70-0	10 - 20
2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C	26062-79-3	0 - 7

SECTION 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.

SECTION 5. FIREFIGHTING 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 available
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 available no data available

Lower Flammable / Explosive Limit, % in air: no data available no data available

SECTION 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.

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 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."

SECTION 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.

Components with workplace control parameters

Components (CAS-No.)	Value	Control parameters	Basis (Update)
ALUMINUM CHLORIDE (7446-70-0)	TWA	1 mg/m ³	ACGIH (02 2014)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
Form: liquid
Color: clear
Odor: none



Molecular Weight:	no data available
Relative density	1.13
pH :	1.5 - 2.0 ()
Boiling Point:	219.99 °F (104.44 °C)
Freezing Point:	no data available
Density	no data available
Vapor Pressure:	no data available
Vapor Density:	no data available
Viscosity:	no data available
Fat Solubility:	no data available
Solubility in Water:	soluble
Partition coefficient n-octanol/water:	no data available
Evaporation Rate:	no data available
Oxidizing:	no data available
Volatiles, % by vol.:	no data available
VOC Content	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). This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.
HAP Content	no data available

SECTION 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, Alkalies
Hazardous Decomposition Products:	hydrochloric acid
Decomposition Temperature:	no data available

SECTION 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
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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 available

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.

SECTION 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)

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 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

SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 2581
Description of the goods : Aluminum chloride, solution
Class : 8
Packing group : III
Labels : 8
Emergency Response : 154
Guidebook Number

TDG



UN number : 2581
Description of the goods : ALUMINUM CHLORIDE SOLUTION
Class : 8
Packing group : III
Labels : 8

IATA

UN number : 2581
Description of the goods : Aluminium chloride solution
Class : 8
Packing group : III
Labels : 8
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852
Packing instruction (passenger aircraft) : Y841

IMDG-CODE

UN number : 2581
Description of the goods : ALUMINIUM CHLORIDE SOLUTION
Class : 8
Packing group : III
Labels : 8
EmS Number 1 : F-A
EmS Number 2 : S-B

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

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 112 (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 I 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

aluminium chloride	7446-70-0
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Pennsylvania Right To Know

aluminium chloride	7446-70-0
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New Jersey Right To Know

aluminium chloride	7446-70-0
2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer	26062-79-3

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:

REACH	: Not in compliance with the inventory
	: Water
	: aluminium chloride



	<ul style="list-style-type: none">: deuterium oxide: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: Sodium chloride: diallyldimethylammonium chloride: The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.
TSCA	
CH INV	<ul style="list-style-type: none">: The formulation contains substances listed on the Swiss Inventory
	<ul style="list-style-type: none">: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: diallyldimethylammonium chloride: aluminium chloride: Sodium chloride: This product contains the following components that are not on the Canadian DSL nor NDSL.
DSL	
	<ul style="list-style-type: none">: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: diallyldimethylammonium chloride: Not in compliance with the inventory
AUSTR	
	<ul style="list-style-type: none">: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: diallyldimethylammonium chloride: Not in compliance with the inventory
NZIOC	
	<ul style="list-style-type: none">: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: diallyldimethylammonium chloride: Not in compliance with the inventory
ENCS	
	<ul style="list-style-type: none">: deuterium oxide: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: diallyldimethylammonium chloride: Not in compliance with the inventory
ISHL	
	<ul style="list-style-type: none">: Water: deuterium oxide: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: diallyldimethylammonium chloride: Not in compliance with the inventory
KOREA	
	<ul style="list-style-type: none">: 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer: diallyldimethylammonium chloride: Not in compliance with the inventory
PHIL	
	<ul style="list-style-type: none">: deuterium oxide



IECSC

- : 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer
- : diallyldimethylammonium chloride
- : Not in compliance with the inventory

- : 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer
- : diallyldimethylammonium chloride

Inventories

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

SECTION 16. OTHER INFORMATION

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. .