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: **BAQUASPA FILTER CLEANER**

1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE:	07/27/2010
SUPERCEDES:	
MSDS Number:	000000012843
SYNONYMS:	None
CHEMICAL FAMILY:	Not Applicable/Mixture
DESCRIPTION / USE	Filter cleaner
FORMULA:	NOT APPLICABLE/MIXTURE

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	**Corrosive to eyes, skin and mucous membranes**

Routes of Entry:	Inhalation, skin, eyes, ingestion
Chemical Interactions:	No known or reported interactions.
Medical Conditions Aggravated:	Pre-existing eye disease, Pre-existing skin disorders.

Human Threshold Response Data

Odor Threshold Not established for product.

SULFURIC ACID	> 1 mg/m³
HYDROCHLORIC ACID	0.77 ppm

Irritation Threshold Not established for product.

SULFURIC ACID	1.10 mg/m³ (Sulfuric acid)

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. Inhalation of mist or vapor may cause irritation and/or burns to the mucous membranes of the respiratory tract.
Skin Toxicity:	Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling, and scab formation. Prolonged skin exposure may cause permanent damage.
Eye Toxicity:	Severe irritation and/or burns can occur following exposure. Direct contact may cause impairment of vision and corneal damage. Rinsing of the eye should take place immediately.
Ingestion Toxicity:	Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration. 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. The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic (Group I carcinogen).
Reproductive and Developmental Toxicity:	Not known or reported to cause reproductive or developmental toxicity.
Inhalation:	Prolonged or repeated exposure may cause more severe irritation. Prolonged or repeated inhalation may cause lung damage. Prolonged or repeated exposure may cause continuous bronchitis. May cause dental erosion.
Skin Contact:	Repeated dermal exposure may cause tissue destruction due to the corrosive nature of this product.
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 effects from repeated exposure except those secondary to burns.
Supplemental Health Hazard Information :	No additional health information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
SULFURIC ACID	7664-93-9	8.7 -
HYDROCHLORIC ACID	7647-01-0	7.5 -
Secondary alcohol ethoxylate	84133-50-6	5.9 -
Citric Acid	77-92-9	3.5 -
Nonionic Surfactant	PROPRIETARY	1.1 -

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. Reacts with most metals to form flammable hydrogen gas.
Extinguishing Media:	Not Applicable. - 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:	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. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.
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. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.
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. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.

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 place. Isolate from incompatible materials. Keep containers tightly closed when not in use.
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 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 :	A NIOSH approved full-face air purifying respirator with acid gas cartridge and N-95 filter. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.
Skin Protection :	Wear impervious gloves, boots and apron to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body.
Eye Protection:	Use chemical goggles and a faceshield.
Protective Clothing Type:	Neoprene, Butyl rubber, Natural rubber
General Protective Measures:	An eye wash and safety shower should be provided in the immediate work area.

Exposure Limit Data

CHEMICAL NAME	CAS #	Name of Limit	Exposure

SULFURIC ACID	7664-93-9	ACGIH	0.2 mg/m3 TWA Thoracic fraction
SULFURIC ACID	7664-93-9	OSHA Z1	1 mg/m3 TWA
SULFURIC ACID	7664-93-9	NIOSH-IDLH	15 mg/m3
HYDROCHLORIC ACID	7647-01-0	ACGIH	2 ppm C
HYDROCHLORIC ACID	7647-01-0	OSHA Z1	5 ppm C 7 mg/m3 C
HYDROCHLORIC ACID	7647-01-0	NIOSH-IDLH	50 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	liquid
Color:	Clear/slight yellow
Odor:	mild
Molecular Weight:	Not applicable/Mixture
Specific Gravity :	1.08
pH :	0 - 2
Boiling Point:	100 DEG°C / 212 DEG°F
Freezing Point:	No data
Melting Point:	No data
Density:	No data
Vapor Pressure:	No data
Vapor Density:	1.0
Viscosity:	No data
Fat Solubility:	No data
Solubility in Water:	Soluble
Partition coefficient n-octanol/water:	No data
Evaporation Rate:	<1.0
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

Chemical Incompatibility:	Strong oxidizing agents, Bases, Amines, Metals, alkalis
Hazardous Decomposition Products:	Hydrogen chloride, Oxides of nitrogen, Sulfur oxides, Carbon monoxide, Carbon dioxide
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:

SULFURIC ACID	LD50	=	2,140 mg/kg	rat
HYDROCHLORIC ACID	LD50		900 mg/kg	Rabbit
Secondary alcohol ethoxylate	LD50	=	1,630 mg/kg	rat
Citric Acid	LD50	=	3,000 mg/kg	rat

Component Animal Toxicology
Dermal LD50 value:

SULFURIC ACID	LD50	>	2,000 mg/kg	Rabbit
HYDROCHLORIC ACID	No data			
Secondary alcohol ethoxylate	LD50	=	1,127 mg/kg	rabbit
Citric Acid	LD50	Believed to be >	2,000 mg/kg	rabbit

Component Animal Toxicology
Inhalation LC50 value:

SULFURIC ACID	LC50 1 h (aerosol)	=	1.02 MG/L	rat
HYDROCHLORIC ACID	Inhalation LC50 1 h		3,124 ppm	Rat
Secondary alcohol ethoxylate	LC50 1 h (aerosol)	=	4.24 MG/L	rat
Secondary alcohol ethoxylate	LC50 4 h (aerosol)	=	1.06 MG/L	rat
Citric Acid	no data available			

Product Animal Toxicity

Oral LD50 value:	LD50	Believed to be approximately	5,900 mg/kg	rat
Dermal LD50 value:	LD50	Believed to be >	2,000 mg/kg	rabbit
Inhalation LC50 value:	no data available			
Skin Irritation:	This material is expected to be corrosive.			
Eye Irritation:	This material is expected to be corrosive.			
Skin Sensitization:	This material is not known or reported to be a skin or respiratory sensitizer.			

Secondary alcohol ethoxylate	This material tested negative for skin sensitization in humans.

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: There are no known or reported effects from repeated exposure except those secondary to burns.

Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.

SULFURIC ACID	This product did not cause reproductive or developmental effects in a study with laboratory animals.
Citric Acid	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.

SULFURIC ACID	This product has been tested for mutagenicity. Tests revealed both positive and negative results. Based on the weight of evidence, we judge this product NOT to be a mutagenic hazard.
HYDROCHLORIC ACID	This chemical has been shown to be non-mutagenic based on a battery of assays.
Citric Acid	This product was determined to be non-mutagenic in the Ames assay. It was also shown to be negative in the Dominant lethal assay.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic (Group I carcinogen). The following data is available for sulfuric acid:

SULFURIC ACID	This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA. IARC evaluated several epidemiology studies where workers from a variety of industries had been exposed to a mixture of strong inorganic acid mists. IARC has concluded that there is sufficient evidence that occupational exposure to a mixture of strong inorganic-acid mists containing sulfuric acid is carcinogenic to humans (Group I carcinogen). Because cancer has not been observed in animals

	when they are exposed only to sulfuric acid mists, exposure to sulfuric acid by itself was not determined to be carcinogenic to humans.
HYDROCHLORIC ACID	The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 3 substance, Unclassifiable as to Its Carcinogenicity to Humans.
Citric Acid	The carcinogenicity has been evaluated through animal study and it was found not to be carcinogenic.

12. ECOLOGICAL INFORMATION

Overview: Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems., No data for product. Individual constituents are as follows:

Ecological Toxicity Values for: **SULFURIC ACID**

Mosquito fish	-	(nominal, static). 96 h LC50 42 mg/l
Bluegill sunfish	-	96 h LC50 10.5 mg/l
Common shrimp (Crangon crangon)	-	(nominal, renewal). 48 h LC50 70-80 mg/l
Daphnia magna,	-	24 h EC50 29 mg/l

Ecological Toxicity Values for: **HYDROCHLORIC ACID**

Mosquito fish	-	96 h LC50 = 282 mg/l
Bluegill	-	48 h LC50 = 3.6 mg/l
Fathead minnow (Pimephales promelas),	-	96 h LC50 = 21.9 mg/l
Common shrimp (Crangon crangon)	-	(nominal, renewal). 48 h LC50= 260 mg/l
Daphnia magna,	-	48 h EC50= 0.492 mg/l

Ecological Toxicity Values for: **Citric Acid**

Lepomis macrochirus (Bluegill sunfish)	-	(static). 96 h LC50 = 1,516 mg/l
Daphnia magna (Water flea)	-	72 h EC50Approximately 120 mg/l

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 meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D002.
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):	UN1760 CORROSIVE LIQUID, N.O.S. (SULFURIC ACID, HYDROCHLORIC ACID) 8 II
Water (IMDG):	UN1760 CORROSIVE LIQUID, N.O.S., (SULFURIC ACID, HYDROCHLORIC ACID) 8 II Marine Pollutant: No
	Flash Point: Not applicable
Air (IATA):	UN1760 CORROSIVE LIQUID, N.O.S., (SULFURIC ACID, HYDROCHLORIC ACID) 8 II
Emergency Response Guide Number:	ERG # 154
Transportation Notes**:**	Hazardous Substance as defined in 49 CFR 172.101, Appendix A: Yes
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	Not registered in the US under FIFRA.

(40 CFR 180):

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	Hydrochloric acid Hydrogen chloride Value: 5,000lbs SULFURIC ACID Value: 1,000lbs
ZUS_SAR302	Reportable quantity	Hydrogen Chloride (gas only) (Gas) Value: 5,000lbs Sulfuric Acid Value: 1,000lbs

<u>Supplier Notification Requirements (40 CFR 372.45), 313 Reportable Components</u>

ZUS_SAR313	De minimis concentration	Hydrochloric acid Value: 1% Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size) Value: 0.1%

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

US. EPA Clean Air Act (CAA) Section 111 SOCMI Intermediate or Final Volatile Organic Compounds (40 CFR 60.489)
01 1996
POLYETHYLENE GLYCOL 200

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
7647-01-0	HYDROCHLORIC ACID
7664-93-9	SULFURIC ACID

ZUSPA_RTK

Pennsylvania: Hazardous substance list
1990-01-01
HYDROCHLORIC ACID
Environmental hazard, hazardous substance

Pennsylvania: Hazardous substance list
1989-08-11
HYDROCHLORIC ACID
Environmental hazard

Pennsylvania: Hazardous substance list
1990-01-01
SULFURIC ACID
Environmental hazard, hazardous substance

Pennsylvania: Hazardous substance list
1989-08-11
SULFURIC ACID
Environmental hazard

New Jersey:

CAS #	COMPONENT NAME
7647-01-0	HYDROCHLORIC ACID
7664-93-9	SULFURIC ACID

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
HYDROGEN CHLORIDE MURIATIC ACID HYDROCHLORIC ACID
Special Health Hazard - Corrosive

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
SULFURIC ACID OIL of VITRIOL DIHYDROGEN SULFATE
Special Health Hazard - Carcinogen, Special Health Hazard - Corrosive, Special Health Hazard - Reactive - Second Degree

Massachusetts:

CAS #	COMPONENT NAME
7647-01-0	HYDROCHLORIC ACID
7664-93-9	SULFURIC ACID

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
HYDROGEN CHLORIDE HYDROCHLORIC ACID
Extraordinarily hazardous

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
SULFURIC ACID
Extraordinarily hazardous

California Proposition 65:

CAS #	COMPONENT NAME
7664-93-9	SULFURIC ACID

ZUSCA_P65

California Proposition 65. Safe drinking water and toxic enforcement act.
Strong inorganic acid mists containing sulfuric acid
Carcinogen

WHMIS Hazard Classification:

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
80

Citric acid

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
502
Hydrogen chloride

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
138
Sulfuric acid

16. OTHER INFORMATION

MSDS REVISION STATUS :
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. .