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: **BAQUA SPA SPRAY AND RINSE FILTER CLEANER**

1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE:	04/28/2011
SUPERCEDES:	07/21/2009
MSDS Number:	000000009859
SYNONYMS:	None
CHEMICAL FAMILY:	Not Applicable/Mixture
DESCRIPTION / USE	Filter cleaner
FORMULA:	None established

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	**Corrosive to eyes, Moderate skin irritant, Mucous membrane irritant**

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 for product.	
Butoxyethanol		0.1 ppm
Irritation Threshold	Not established for product.	
Butoxyethanol		100 ppm

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 toxic by inhalation. Inhalation of mist or vapor may cause irritation to the mucous membranes of the respiratory tract. Any irritation would be transient with no permanent damage expected.
Skin Toxicity:	Not expected to be toxic from dermal contact. Skin contact may cause moderate irritation consisting of transient redness and swelling. This irritant effect would not be expected to result in permanent damage.
Eye Toxicity:	Corrosive. Burns can occur following exposure. Direct contact may cause impairment of vision, corneal damage and/or blindness. Rinsing of the eye should take place immediately.
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. Not expected to be toxic by ingestion.
Acute Target Organ Toxicity:	This product is corrosive to the eyes, moderately irritating to the skin 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:	No reproductive or developmental risk to humans is expected from exposure to this product.
Inhalation:	There are no known or reported effects from chronic exposure except for effects similar to those experienced from acute exposure.
Skin Contact:	Prolonged or repeated exposure may cause severe irritation.
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:	This product has not been tested. However, chronic (repeated) exposures to this product would be expected to produce similar effects as seen from acute exposures.
Supplemental Health Hazard Information :	No additional health information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
Butoxyethanol	111-76-2	
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.	9016-45-9	
ETIDRONIC ACID	2809-21-4	
Citric Acid	77-92-9	

4. FIRST AID MEASURES

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 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.

5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA): Combustible above 93 deg. C / 200 deg. F.

Flammable Properties

Flash Point: 93 DEG°C 199 DEG°F

Autoignition Temperature: No data

Fire / Explosion Hazards: Material may be ignited only if preheated to high temperatures, for example in a fire.

Extinguishing Media: Use dry chemical, water fog, carbon dioxide (CO_2), or foam.

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:	Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.
<u>Spill Mitigation Procedures</u>	
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 :	Remove all sources of ignition. 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 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."

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 air purifying respirator with organic vapor cartridge and N95 particulate 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 to avoid skin contact.

Eye Protection: Use chemical goggles and a faceshield.

Protective Clothing Type: Impervious

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
Butoxyethanol	111-76-2	ACGIH	20 ppm TWA
Butoxyethanol	111-76-2	OSHA Z1	50 ppm TWA 240 mg/m3 TWA
Butoxyethanol	111-76-2	NIOSH-IDLH	700 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	liquid
Color:	Clear
Odor:	Detergent
Molecular Weight:	Not applicable/Mixture
Specific Gravity :	1.138
pH :	1 - 3
Boiling Point:	101 DEG°C / 215 DEG°F
Freezing Point:	No data

Melting Point:	Not applicable
Density:	No data
Vapor Pressure:	17
Vapor Density:	0.6
Viscosity:	No data
Fat Solubility:	No data
Solubility in Water:	Soluble
Partition coefficient n-octanol/water:	No data
Evaporation Rate:	16.0
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:	Sparks, open flame, other ignition sources, and elevated temperatures.
Chemical Incompatibility:	Strong oxidizing agents, strong acids, strong alkalies
Hazardous Decomposition Products:	Carbon monoxide, Carbon dioxide, Nitrogen, Aldehydes, Ketones
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:

Butoxyethanol	LD50	=	1,590 mg/kg	Rat
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.	LD50	=	4,000 mg/kg	Rat
ETIDRONIC ACID	LD50	=	1,440 mg/kg	Rat
Citric Acid	LD50	=	3,000 mg/kg	rat

Component Animal Toxicology
Dermal LD50 value:

Butoxyethanol	LD50	=	580 mg/kg	Rabbit
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.	LD50	>	2,000 mg/kg	Rabbit
ETIDRONIC ACID	LD50	>	4,764 mg/kg	Rabbit
Citric Acid	LD50	Believed to be >	2,000 mg/kg	rabbit

Component Animal Toxicology

Inhalation LC50 value:

Butoxyethanol	LC50 4 h = 486 ppm rat male
Butoxyethanol	LC50 4 h = 450 ppm rat female
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.	Inhalation LC50 No data
ETIDRONIC ACID	No data
Citric Acid	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 > 5,000 mg/kg rabbit
Inhalation LC50 value:	no data available
Skin Irritation:	This material is expected to be moderately irritating.
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.
Acute Toxicity:	This product is corrosive to the eyes, moderately irritating to the skin 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.

Butoxyethanol	High dose levels of this chemical produced maternal toxicity, and embryolethality and fetal malformations.
ETIDRONIC ACID	This product has been tested and was shown not to produce any adverse effects on reproductive function or fetal development when administered to 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.

Butoxyethanol	This material has been shown to be non-mutagenic in the majority of a battery of assays. Not expected to be a

	mutagenic hazard.
ETIDRONIC ACID	This chemical has been tested and was shown to be non-mutagenic.
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.

Butoxyethanol	This material has been classified by the U.S. EPA as a "Group C" carcinogen (Suggestive Human Carcinogen), based on equivocal and limited evidence in laboratory animals. 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.
ETIDRONIC ACID	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.
Citric Acid	The carcinogenicity has been evaluated through animal study and it was found not to be carcinogenic.

12. ECOLOGICAL INFORMATION

Overview: No data for product. Individual constituents are as follows:

Ecological Toxicity Values for: **Butoxyethanol**

Lepomis macrochirus (Bluegill sunfish)	-	static test 96 h LC50 = 1,490 mg/l
Brine shrimp	-	static test 24 h LC50= 1,000 mg/l
Daphnia magna (Water flea)	-	static test 48 h EC50> 1,000 mg/l
Crangon crangon (shrimp)	-	48 h LC50= 800 mg/l

Ecological Toxicity Values for: **ETIDRONIC ACID**

Bluegill	-	96 h LC50 = 868 mg/l
Rainbow trout (Salmo gairdneri),	-	96 h LC50 = 368 mg/l
Channel Catfish (Ictalurus punctatus rafinesque),	-	96 h LC50 = 695 mg/l
Sheepshead minnow	-	96 h LC50 = 2,180 mg/l
Daphnia magna,	-	48 h EC50= 527 mg/l

Grass shrimp	-	96 h LC50= 1,770 mg/l
Oyster Shell Deposition	-	96 h EC50= 89 mg/l
Mallard duck	-	Oral LD50 > 2,510 mg/kg
Bobwhite quail	-	Oral LD50 > 2,510 mg/kg

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): NOT REGULATED AS A DOT HAZARDOUS MATERIAL
Water (IMDG): UN3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., (HYDROXYETHANEDIPHOSPHONIC ACID) 8 III Marine Pollutant: No

Air (IATA): UN3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., (HYDROXYETHANEDIPHOSPHONIC ACID) 8 III
Emergency Response Guide Number: Not applicable

Transportation Notes:	Product not regulated for ground transport in the USA per exception permitted in 49 CFR 173.154(d).
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	GLYCOL ETHERS Value:
ZUS_SAR302	Reportable quantity	None established

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

ZUS_SAR313	De minimis concentration	Glycol ethers (Non-carcinogenic) Value: 1%

Clean Air Act Toxic ARP Section 112r:

CAA 112R	None established

Clean Air Act Socmi:

HON SOC

US. EPA Hazardous Organic NESHAP (HON) Synthetic Organic Chemicals (40 CFR 63.100-.106, Table 1)
07 1999
Group I
ETHYLENE GLYCOL MONOBUTYL ETHER

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
2-BUTOXYETHANOL

Clean Air Act Haz. Air Pollutants Section 112:
ZUS_CAAHAP None established

ZUS_CAAHRP None established

CAA AP

US. EPA Hazardous Organic NESHAP (HON) Hazardous Air Pollutants (40 CFR 63.100-.106, Table 2)
04 1999
GLYCOL ETHERS

State Right-to-Know Regulations Status of Ingredients

Pennsylvania:

CAS #	COMPONENT NAME
111-76-2	Butoxyethanol

ZUSPA_RTK

Pennsylvania: Hazardous substance list
1989-08-11
ETHANOL, 2-BUTOXY-

New Jersey:

CAS #	COMPONENT NAME
111-76-2	Butoxyethanol

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01

2-BUTOXY ETHANOL ETHYLENE GLYCOL MONOBUTYL ETHER ETHANOL, 2-BUTOXY- BUTYL CELLOSOLVE
Special Health Hazard - Carcinogen

Massachusetts:

CAS #	COMPONENT NAME
111-76-2	Butoxyethanol

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
2-BUTOXYETHANOL BUTYL CELLOSOLVE ETHYLENE GLYCOL MONOBUTYL ETHER

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
80
Citric acid

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
824
Ethylene glycol monobutyl ether

16. OTHER INFORMATION

MSDS REVISION STATUS :
SECTIONS REVISED: 5
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. .