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: **BAQUACIL Algicide**
EPA Registration Number: 1258-1264

1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE: 03/18/2010
SUPERCEDES: 02/11/2009

MSDS Number: 000000001324
SYNONYMS: None
CHEMICAL FAMILY: Mixture
DESCRIPTION / USE: algaecide
FORMULA: NOT APPLICABLE/MIXTURE

2. HAZARDS IDENTIFICATION

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

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.

ISOPROPYL ALCOHOL 22 ppm

Irritation Threshold Not established for product.

ISOPROPYL ALCOHOL Approximately 400 ppm

Hazardous Materials Identification System / National Fire Protection Association Classifications

Hazard Ratings :	Health	Flammability	Physical / Instability	PPI / Special hazard.
HMIS	3	2	0	
NFPA	3	2	0	

Immediate (Acute) Health Effects

Inhalation Toxicity:	Inhalation of this material in vapor form is irritating to the nose, mouth, throat and lungs. It may also cause burns to the respiratory tract which can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function. Inhalation of high concentrations may result in permanent lung damage.
Skin Toxicity:	Not expected to be toxic from dermal contact. 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 eye exposure. Direct contact may cause impairment of vision and corneal damage.
Ingestion Toxicity:	Moderately toxic if swallowed. 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. Ingestion may cause severe damage to the gastrointestinal tract with the potential to cause perforation.
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:	Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.
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:	Corneal involvement or visual impairment is expected. Prolonged contact may result in permanent damage.
Sensitization:	This product has not been tested. However based on similar structured materials, this product is not expected to cause allergic skin sensitization.
Chronic Target Organ Toxicity:	This product is corrosive to all tissues contacted.
Supplemental Health Hazard Information :	No additional health information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	68391-01-5	49.80 -
ISOPROPYL ALCOHOL	67-63-0	10.00 -
Water	7732-18-5	40.00 -

4. FIRST AID MEASURES

General Advice: Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Inhalation: IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Skin Contact: IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye Contact: IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Ingestion: IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not 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): Combustible.

Flammable Properties

Flash Point: 45 DEG°C / 113 DEG°F Pensky Martens Closed Cup

Autoignition Temperature: No data

Fire / Explosion Hazards:	Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back.
Extinguishing Media:	Dry chemical Foam Carbon dioxide Water fog
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. Use water to cool containers.
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.
<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. 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. Ground and bond containers when transferring material.
Storage:	Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) closed. Keep from freezing. Keep away from food and drinking water.
Incompatible Materials for Storage:	Do not allow product to come in contact with other materials, including e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.
Do Not Store At temperatures Above:	60 DEG°C / 140 DEG°F
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, aerosols or dusts are generated. Otherwise, use general exhaust ventilation.

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. 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, 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:	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
ISOPROPYL ALCOHOL	67-63-0	ZUS_ACGIH	200 ppm TWA
ISOPROPYL ALCOHOL	67-63-0	ZUS_ACGIH	400 ppm STEL

ISOPROPYL ALCOHOL	67-63-0	ZUS_OSHAP1	400 ppm TWA 980 mg/m3 TWA
ISOPROPYL ALCOHOL	67-63-0	NIOSH-IDLH	2,000 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	No data.
Form	liquid
Color:	blue
Odor:	Benzaldehyde-like
Molecular Weight:	Not Applicable/Mixture
Specific Gravity :	0.9600 (@ 25 Deg. C)
pH :	6.5 - 8.3 at 10 g/l
Boiling Point:	101 DEG°C / 214 DEG°F
Freezing Point:	No data.
Melting Point:	No data
Density:	No data.
Vapor Pressure:	44.00000000 mmHg68.00 DEG°F
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:	None established
Volatiles, % by vol.:	50.000%
VOC Content	10.00 wt%/wt
HAP Content	

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions. Product is sensitive to electrical static discharge. Product will not undergo hazardous polymerization.
Conditions to Avoid:	Sparks, open flame, other ignition sources, and elevated temperatures.
Chemical Incompatibility:	Strong oxidizing agents, Reducing agents
Hazardous Decomposition Products:	Carbon monoxide, Carbon dioxide, Oxides of nitrogen, Hydrogen chloride, Amines
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	No data
ISOPROPYL ALCOHOL	LD50 = 5,045 mg/kg Rat

Dermal LD50 value:

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	No data
ISOPROPYL ALCOHOL	LD50 = 13,000 mg/kg Rabbit

Inhalation LC50 value:

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	No data
ISOPROPYL ALCOHOL	Inhalation LC50 8 h = 16,000 ppm Rat

Product Animal Toxicity

Oral LD50 value:	LD50 = 515 mg/kg Rat
Dermal LD50 value:	LD50 > 2,000 mg/kg Rabbit
Inhalation LC50 value:	No data
Skin Irritation:	Expected to be corrosive.
Eye Irritation:	Corrosive to eyes.
Skin Sensitization:	None known or reported.
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.

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	This product has been tested for Subchronic toxicity in laboratory animals and no systemic toxicity or target organ effects occurred in the test animals.

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

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	At high doses, maternal toxicity was observed. However, no developmental effects were observed.
ISOPROPYL ALCOHOL	This material at concentrations above the occupational exposure limits has caused developmental effects in animals. However, these effects were observed only at those doses that resulted in maternal toxicity.

Mutagenicity: Not known or reported to be mutagenic.

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	This chemical has been tested and was shown to be non-mutagenic.
ISOPROPYL ALCOHOL	This material has been shown not to be mutagenic based on a battery of assays.

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

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY	The carcinogenicity has been evaluated through animal study and it was found not to be carcinogenic.
ISOPROPYL ALCOHOL	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.

12. ECOLOGICAL INFORMATION

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

Ecological Toxicity Values for: **QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-18-ALKY**

Bluegill sunfish	-	(static). 96 h LC50 = 0.52 mg/l
Rainbow trout (Salmo gairdneri),	-	(static). 96 h LC50 = 0.93 mg/l
Sheepshead minnow	-	(static). 96 h LC50 = 0.86 mg/l
Daphnia magna,	-	(static). 48 h EC50= 0.058 mg/l
Mysid shrimp	-	(static). 96 h LC50= 0.092 mg/l

Ecological Toxicity Values for: **ISOPROPYL ALCOHOL**

Bluegill	-	(nominal, static). 96 h LC50 > 1,400 mg/l
Fathead minnow (Pimephales promelas),	-	(measured, flow-through) 96 h LC50 10,400 mg/l
Mosquito fish	-	(nominal, static). 96 h LC50 > 1,400 mg/l
Daphnia magna,	-	(nominal, static). 24 h EC50 9,714 mg/l
Common shrimp (Crangon crangon)	-	(nominal, renewal). 48 h LC50 1,400 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: D001.
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 :	D001

14. TRANSPORT INFORMATION

Land (US DOT):	UN2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S. (QUATERNARY AMMONIUM COMPOUND, ISOPROPANOL) 8 3 II
Water (IMDG):	UN2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S., (QUATERNARY AMMONIUM COMPOUND, ISOPROPANOL) 8 3 II MARINE POLLUTANT Flash Point: 45.00 DEG°C
Air (IATA):	UN2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S., (QUATERNARY AMMONIUM COMPOUND, ISOPROPANOL) 8 3 II
Emergency Response Guide Number:	ERG # 132
Transportation Notes**:**	Material is not regulated as a marine pollutant for ground, rail car, or aircraft transportation within the USA if shipped in non bulk packages per marine pollutant exception 49 CFR 171.4(c).
EMS:	F-E, S-C

15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA):	This is an EPA registered pesticide.
EPA Pesticide Registration Number:	1258-1264
FIFRA Listing of Pesticide Chemicals (40 CFR 180):	This product is regulated under the Federal Insecticide, Fungicide and Rodenticide Act. It must be used for purposes consistent with its labeling.

Superfund Amendments and Reauthorization Act (SARA) Title III:

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

Health	Immediate (Acute) Health Hazard
Physical	Fire Hazard

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	Isopropyl alcohol (Manufacturing-strong acid process, no supplier notification) Value: 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
ISOPROPYL ALCOHOL

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
67-63-0	2-PROPANOL

ZUSPA_RTK

Pennsylvania: Hazardous substance list
1990-01-01
2-PROPANOL
Environmental hazard, hazardous substance

Pennsylvania: Hazardous substance list
1989-08-11
2-PROPANOL
Environmental hazard

New Jersey:

CAS #	COMPONENT NAME
67-63-0	2-PROPANOL

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
1989-12-01
ISOPROPYL ALCOHOL (manufacture-strong acid process)
hazardous substance

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
ISOPROPYL ALCOHOL ISOPROPANOL 2-PROPANOL
Special Health Hazard - Flammable - Third Degree

Massachusetts:

CAS #	COMPONENT NAME
67-63-0	2-PROPANOL

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
ISOPROPYL ALCOHOL 2-PROPANOL

California Proposition 65:

CAS #	COMPONENT NAME

ZUSCA_P65 None established

WHMIS Hazard Classification:
None established

16. OTHER INFORMATION

MSDS REVISION STATUS : Revised to meet the ANSI standard of 16 sections
SECTIONS REVISED: 14
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. .