



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 SUPER EXTENDED ALGAE GUARD
EPA Registration Number: 8959-5-1258

1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204	REVISION DATE:	09/14/2011
	SUPERCEDES:	08/06/2009
	MSDS Number:	000000010662
	SYNONYMS:	None
	CHEMICAL FAMILY:	Not Applicable/Mixture
	DESCRIPTION / USE	algaeicide
FORMULA:	None established	

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	Slight Eye Irritant
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Routes of Entry:	Ingestion Skin Eyes
Chemical Interactions:	No known interactions
Medical Conditions Aggravated:	None known or reported

Human Threshold Response Data

Odor Threshold	Not established for product.	
Ethanolamine		2.6 ppm
Irritation Threshold	Not established for product.	
Ethanolamine		> 5.0 ppm



Hazardous Materials Identification System / National Fire Protection Association Classifications

<u>Hazard Ratings :</u>	<u>Health</u>	<u>Flammability</u>	<u>Physical / Instability</u>	<u>PPI / Special hazard.</u>
HMIS	1	0	0	
NFPA	1	0	0	

Immediate (Acute) Health Effects

Inhalation Toxicity:	Not expected to be toxic by inhalation. Not expected to be an inhalation hazard at ambient conditions. Inhalation of mist or vapor may cause irritation to the mucous membranes of the respiratory tract.
Skin Toxicity:	Not expected to be irritating to the skin. Not expected to be toxic from dermal contact.
Eye Toxicity:	Contact would be expected to cause minor irritation, consisting of transient redness and swelling. No corneal involvement or visual impairment is expected.
Ingestion Toxicity:	Ingestion may cause mild irritation of the gastrointestinal tract and may also cause 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:	May cause mild eye irritation. Ingestion may cause mild gastrointestinal discomfort., Inhalation of mist or vapor may cause irritation to the mucous membranes of the 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.
Skin Absorption:	There are no known or reported effects from chronic exposure.
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:	There are no known or reported target organ effects from chronic exposure.
Supplemental Health Hazard Information :	No additional health information available.



3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
Triethanolamine	102-71-6	6.0 - 7.0
Ethanolamine	141-43-5	4.0 - 5.0
BASIC COPPER CARBONATE	12069-69-1	3.0 - 4.0

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.

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: This material is not expected to burn unless all the water is boiled away. The remaining compounds may be ignitable.

Extinguishing Media: Carbon dioxide Dry chemical 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.

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 liquids for treatment or disposal.

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 liquids for treatment or disposal.

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 liquids for treatment or disposal.

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. Keep containers tightly closed when not in use.
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: Safety glasses with side-shields
Protective Clothing Type: Neoprene, Butyl rubber
General Protective Measures: Emergency eyewash should be provided in the immediate work area.

Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
Triethanolamine	102-71-6	ACGIH	5 mg/m3 TWA
Ethanolamine	141-43-5	ACGIH	3 ppm TWA
Ethanolamine	141-43-5	ACGIH	6 ppm STEL
Ethanolamine	141-43-5	OSHA Z1	3 ppm TWA 6 mg/m3 TWA
Ethanolamine	141-43-5	NIOSH-IDLH	30 ppm
BASIC COPPER CARBONATE	12069-69-1	ACGIH	1 mg/m3 Calculated as Cu TWA dusts and mists
BASIC COPPER CARBONATE	12069-69-1	OSHA Z1	1 mg/m3 TWA dusts and mists



BASIC COPPER CARBONATE

12069-69-1 NIOSH-IDLH

100 mg/m3

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	viscous
Color:	Blue
Odor:	Slight
Molecular Weight:	No data
Specific Gravity :	1.0 - 1.2
pH :	9.5 - 10.0
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:	No data
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, Acids, Nitrites
Hazardous Decomposition Products:	Carbon monoxide, Carbon dioxide, Oxides of nitrogen, Hydrogen chloride
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:



Triethanolamine LD50 = 7,390 mg/kg Rat
Ethanolamine LD50 = 1,700 mg/kg rat
BASIC COPPER LD50 = 1,350 mg/kg rat
CARBONATE

Component Animal Toxicology

Dermal LD50 value:

Triethanolamine LD50 > 2,000 mg/kg Rabbit
Ethanolamine LD50 Approximately 1,000 mg/kg rabbit
BASIC COPPER no data available
CARBONATE

Component Animal Toxicology

Inhalation LC50 value:

Triethanolamine A saturated vapor concentration for 8 hours (rats) did not produce any deaths.
Ethanolamine LC50 1 h > 4.8 MG/L mouse
Ethanolamine LC50 4 h > 970 ppm mouse
BASIC COPPER no data available
CARBONATE

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: LC50 1 h Believed to be > 20 MG/L mouse

Skin Irritation: Not expected to be irritating to the skin.
Eye Irritation: slight irritation
Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Triethanolamine This material tested negative for skin sensitization in animals.

Ethanolamine This material tested negative for skin sensitization in animals.

Acute Toxicity: May cause mild eye irritation. Ingestion may cause mild gastrointestinal discomfort. Inhalation of mist or vapor may cause irritation to the mucous membranes of the respiratory tract.

Subchronic / Chronic Toxicity: Not known or reported to cause subchronic or chronic toxicity.

Triethanolamine Animal studies suggest that chronic (repeated) overexposure may result in damage to the liver and



kidney.

Reproductive and
Developmental Toxicity:

Not known or reported to cause reproductive or developmental toxicity.

Triethanolamine

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.

Ethanolamine

This chemical has been tested in laboratory animals and no evidence of teratogenicity, embryotoxicity or fetotoxicity was seen.

Mutagenicity:

Not known or reported to be mutagenic.

Triethanolamine

This chemical has been shown to be non-mutagenic based on a battery of assays.

Ethanolamine

This chemical has been tested in a battery of mutagenicity/genotoxicity assays and the results were negative.

Carcinogenicity:

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

Triethanolamine

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.

Ethanolamine

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.

12. ECOLOGICAL INFORMATION

Overview: Practically non- toxic to fish and other aquatic organisms.

Ecological Toxicity Values for: Triethanolamine

Fathead minnow (Pimephales promelas),	- (measured, flow-through) 96 h LC50 = 11,800 mg/l
Daphnia magna,	- (nominal, static). 24 h EC50= 1,850 mg/l
Common shrimp (Crangon crangon)	- (nominal, renewal). 48 h LC50> 100 mg/l



Green algae (*Scenedesmus subspicatus*) - (nominal, static). 48 h EC50 = 750 mg/l

Ecological Toxicity Values for: Ethanolamine

Rainbow trout (*Oncorhynchus mykiss*) - (nominal, static). 96 h LC50 = 150 mg/l

Mosquito fish - (nominal, static). 96 h LC50 = 337.5 mg/l

Bluegill - (nominal, static). 96 h LC50 = 329.16 mg/l

Fathead minnow (*Pimephales promelas*), - (measured, flow-through) 96 h LC50 = 2,070 mg/l

Goldfish - (measured, static) 96 h LC50 = 170 mg/l

Daphnia magna (Water flea) - (nominal, static). 24 h LC50= 140 mg/l

Crangon crangon (shrimp) - (nominal, renewal). 48 h LC50> 100 mg/l

Brine shrimp - 48 h LC50= 7,100 mg/l

Daphnia magna (Water flea) - 48 h EC50= 65 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 will be a nonhazardous waste.

Disposal Methods : As a nonhazardous waste, it should be disposed of in accordance with local, state and federal regulations.

Potential US EPA Waste Codes : Not applicable

14. TRANSPORT INFORMATION

Land (US DOT): Not Regulated NOT REGULATED AS A DOT HAZARDOUS MATERIAL
Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL, Marine Pollutant:
No

Flash Point: Not applicable
Air (IATA): NOT REGULATED AS A HAZARDOUS MATERIAL,
Emergency Response Guide Number: Not applicable



15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA): This is an EPA registered pesticide.
EPA Pesticide Registration Number: 8959-5-1258

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	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
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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
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Clean Air Act Toxic ARP Section 112r:

CAA 112R	None established
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Clean Air Act Socmi:

HON SOC

US. EPA Hazardous Organic NESHP (HON) Synthetic Organic Chemicals (40 CFR 63.100-.106, Table 1)
07 1999
Group I
ETHANOLAMINE

US. EPA Hazardous Organic NESHP (HON) Synthetic Organic Chemicals (40 CFR 63.100-.106, Table 1)



07 1999
Group I
TRIETHANOLAMINE

Clean Air Act VOC Section 111:
CAA 111

US. EPA Clean Air Act (CAA) Section 111 SOCM I Intermediate or Final Volatile Organic Compounds (40 CFR 60.489)
01 1996
ETHANOLAMINE

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
141-43-5	Ethanolamine
102-71-6	Triethanolamine

ZUSPA_RTK

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

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

New Jersey:

CAS #	COMPONENT NAME
141-43-5	Ethanolamine
102-71-6	Triethanolamine

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
ETHANOLAMINE MONOETHANOLAMINE ETHANOL, 2-AMINO-



Special Health Hazard - Corrosive

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

2007-03-01

TRIETHANOLAMINE ETHANOL, 2,2',2"-NITRILOTRIS-

Massachusetts:

CAS #	COMPONENT NAME
141-43-5	Ethanolamine
102-71-6	Triethanolamine

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications

1993-04-24

ETHANOLAMINE 2-AMINOETHANOL

Massachusetts Right to Know List of Chemicals and Hazard Classifications

1993-04-24

TRIETHANOLAMINE

California Proposition 65:

CAS #	COMPONENT NAME
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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

1170

Monoethanolamine

Ingredient Disclosure List (WHMIS)



2007-08-24
Threshold limits: 1 Weight percent
1663
Triethanolamine

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
985
Copper(II) carbonate hydroxide

16. OTHER INFORMATION

MSDS REVISION STATUS :
SECTIONS REVISED: 2, 8, 11
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. .