APPLIED BIOCHEMISTS®

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: **APPLIED BIOCHEMISTS SWIMTRINE PLUS**

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Supplier
Applied Biochemists
1400 Bluegrass Lakes Parkway ,
Alpharetta, GA, 30004
USA

Telephone: +17705215999
Telefax: +17705215999
Web: www.poolspacare.com

Manufacturer
Advantis Technologies
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America

REVISION DATE:	05/26/2015
SUPERCEDES:	03/20/2009
MSDS Number:	000000024406
SYNONYMS:	
CHEMICAL FAMILY:	None
DESCRIPTION / USE	None established
FORMULA:	None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Specific target organ toxicity - single exposure : Category 3

GHS Label element

Hazard pictograms :

Signal word	:	Warning
Hazard statements	:	H335 May cause respiratory irritation.
Precautionary statements	:	**Prevention:** P261 Avoid breathing vapours. P271 Use only outdoors or in a well-ventilated area. **Response:** P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/ physician if you feel unwell. **Storage:** P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. **Disposal:** P501 Dispose of contents/container in accordance with local regulation.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
Triethanolamine	102-71-6	20 - 29
Ethanolamine	141-43-5	16 - 26
BASIC COPPER CARBONATE	12069-69-1	12 - 22
Citric Acid	77-92-9	0 - 8

SECTION 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.

SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA):	Product is not known to be flammable, combustible, pyrophoric or explosive.
<u>Flammable Properties</u>	
Flash Point:	No data.
Fire / Explosion Hazards:	0 - Will not burn
Extinguishing Media:	Carbon dioxide (CO_2) Dry powder Foam
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
Lower Flammable / Explosive Limit, % in air:	No data

SECTION 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:	Vapors may be suppressed by the use of water fog.Keep people away from and upwind of spill/leak.
Water Release:	This material is soluble in water.If the product contaminates rivers and lakes or drains inform respective authorities.

Land Release:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).After removal, flush contaminated area thoroughly with water.Avoid runoff into storm sewers and ditches which lead to waterways.
Additional Spill Information :	Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

SECTION 7. HANDLING AND STORAGE

Handling:	Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing vapours, mist or gas.
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."
Empty Container Warning:	Empty containers retain hazardous residue, dispose of accordingly.

SECTION 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., 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 :	Avoid contact with skin. Impervious gloves
Eye Protection:	Safety glasses with side-shields
Protective Clothing Type:	impervious clothing
General Protective Measures:	Emergency eyewash should be provided in the immediate work area.

Components with workplace control parameters

Components (CAS-No.)	Value	Control parameters	Basis (Update)
Triethanolamine (102-71-6)	TWA	5 mg/m3	ACGIH (02 2014)

Ethanolamine (141-43-5)	TWA	3 ppm	ACGIH (02 2014)
	STEL	6 ppm	ACGIH (02 2014)
BASIC COPPER CARBONATE (12069-69-1)	Conc	100 mg/m3	NIOSH/GUIDE (2005)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	No data.
Color:	No data.
Odor:	No data.
Molecular Weight:	None established
pH :	9.7 - 10.3 ()
Boiling Point:	212 °F (100 °C)
Melting point/freezing point	No data
Density	Not applicable
Vapor Pressure:	no data available
Vapor Density:	no data available
Viscosity:	no data available
Solubility in Water:	Soluble
Partition coefficient n-octanol/water:	No data.
Evaporation Rate:	LONZA-Z09.00400000 1
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	no data available This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI 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	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions., Product will not undergo hazardous polymerization.
Conditions to Avoid:	Heat, flames and sparks.
Chemical Incompatibility:	Acids, Nitrites
Hazardous Decomposition Products:	Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride
Decomposition Temperature:	No data

SECTION 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 CARBONATE	LD50	=	1,350 mg/kg	Rat
Citric Acid	LD50	=	3,000 mg/kg	Rat

Component Animal Toxicology
Dermal LD50 value:

Triethanolamine	LD50	>	2,000 mg/kg	Rabbit
Ethanolamine	LD50	Approximately	1,000 mg/kg	Rabbit
BASIC COPPER CARBONATE	no data available			
Citric Acid	LD50	Believed to be >	2,000 mg/kg	Rabbit

Component Animal Toxicology
Inhalation LC50 value:

Triethanolamine	A saturated vapor concentration for 8 hours (rats) did not produce any deaths.			
Ethanolamine	LC50	1 h >	2.42 mg/l	Mouse
	LC50	4 h >	970 ppm	Mouse
BASIC COPPER CARBONATE	no data available			
Citric Acid	no data available			

Product Animal Toxicity

Oral LD50 value:	LD50	Believed to be approximately	3,790 mg/kg	Rat
Dermal LD50 value:	LD50	Believed to be >	2,000 mg/kg	Rabbit
Inhalation LC50 value:	no data available			
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.
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.

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.
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.

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.

Citric Acid	The carcinogenicity has been evaluated through animal study and it was found not to be carcinogenic.

SECTION 12. ECOLOGICAL INFORMATION

Overview: Toxic to fish and other aquatic organisms.

Ecological Toxicity Values for: Triethanolamine

Pimephales promelas (fathead minnow)	-	(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
Pimephales promelas (fathead minnow)	-	(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

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

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 DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.As a nonhazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT
Not dangerous goods

TDG
Not dangerous goods

IATA
Not dangerous goods

IMDG-CODE
Not dangerous goods

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

Signal word	:	CAUTION!
Hazard statements	:	This pesticide is toxic to fish.

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)

2,2'-Iminodiethanol	111-42-2	100	

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

copper carbonate 12069-69-1

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (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 SOCMI 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 contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

copper carbonate	12069-69-1	17.07 %

US State Regulations

Massachusetts Right To Know

2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5

Pennsylvania Right To Know

2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5

copper carbonate	12069-69-1
Citric acid	77-92-9

New Jersey Right To Know

2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5
copper carbonate	12069-69-1
Citric acid	77-92-9

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

2,2'-Iminodiethanol	111-42-2

The components of this product are reported in the following inventories:

TSCA : This is an EPA registered pesticide.

Inventories

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