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: **CUTRINE-ULTRA**

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Supplier
Applied Biochemists (WI)
W175 N11163 Stonewood Drive , Suite 234
Germantown, WI, 53022
USA

Telephone: +12622554449
Telefax: +12622554449
Web: www.appliedbiochemists.com

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

REVISION DATE: 05/27/2015
SUPERCEDES: 02/15/2007

MSDS Number: 000000024434
SYNONYMS:
CHEMICAL FAMILY: None
DESCRIPTION / USE None established
FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Skin corrosion	:	Category 1B
Eye irritation	:	Category 2A

Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements :

Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container

tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
Triethanolamine	102-71-6	20 - 30
Ethanolamine	141-43-5	18 - 28
BASIC COPPER CARBONATE	12069-69-1	11 - 21
Fatty acids, tall-oil	61790-12-3	0 - 7

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.

Notes to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA):	The product is not flammable., Not combustible., The substance or mixture is not classified as pyrophoric., Not explosive

Flammable Properties

Fire / Explosion Hazards:	0 - Will not burn
Extinguishing Media:	Carbon dioxide (CO2) 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.

SECTION 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:	Keep people away from and upwind of spill/leak.
Water Release:	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).The product should not be allowed to enter drains, water courses or the soil.
Additional Spill Information :	Prevent further leakage or spillage if safe to do so. Evacuate personnel to safe areas. Use personal protective equipment as required.

SECTION 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.
Incompatible Materials for Storage:	Refer to Section 10, "Incompatible Materials."

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 P95 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 Boots Apron A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye Protection: Chemical resistant goggles must be worn. Face-shield

Protective Clothing Type: impervious clothing

General Protective Measures: Ensure that eyewash stations and safety showers are close to the workstation location.

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 :	10.2 - 10.3 ()
Boiling Point:	no data available
Melting point/freezing point	No data

Density	Not applicable
Bulk Density:	() no data available
Vapor Pressure:	no data available
Vapor Density:	> 1 (Air = 1.0)
Viscosity:	396 mPa.s 24 °C
Solubility in Water:	completely miscible
Partition coefficient n-octanol/water:	No data.
Evaporation Rate:	no data available
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.
Conditions to Avoid:	High temperatures
Chemical Incompatibility:	Strong acids, Nitrates
Hazardous Decomposition Products:	Carbon oxides, Nitrogen oxides (NOx)
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	

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		

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

Product Animal Toxicity

Oral LD50 value:	LD50 = 1,000 mg/kg Rat
Dermal LD50 value:	LD50 > 2,000 - < 5,000 mg/kg Rat
Inhalation LC50 value:	LC50 4 h (aerosol), (Whole-body) > 2.07 mg/l Rat
Skin Irritation:	Corrosive to skin
Eye Irritation:	Severe eye irritant
Skin Sensitization:	Negative skin sensitizer, guinea pig - Buehler Method

Triethanolamine	This material tested negative for skin sensitization in animals.
Ethanolamine	This material tested negative for skin sensitization in animals.

Acute Toxicity: Corrosive to skinSevere eye irritationInhalation 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.

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

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

SECTION 14. TRANSPORT INFORMATION

DOT

UN number	:	1760
Description of the goods	:	Corrosive liquids, n.o.s.
	:	(Copper triethanolamine complex)
Class	:	8
Packing group	:	III
Labels	:	8
Emergency Response Guidebook Number	:	154

TDG

UN number	:	1760
Description of the goods	:	CORROSIVE LIQUID, N.O.S. (Copper triethanolamine complex)
Class	:	8
Packing group	:	III
Labels	:	8

IATA

UN number	:	1760
Description of the goods	:	Corrosive liquid, n.o.s. (Copper triethanolamine complex)
Class	:	8
Packing group	:	III
Labels	:	8
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852
Packing instruction (passenger aircraft)	:	Y841

IMDG-CODE

UN number	:	1760
Description of the goods	:	CORROSIVE LIQUID, N.O.S. (Copper triethanolamine complex)
Class	:	8
Packing group	:	III
Labels	:	8
EmS Number 1	:	F-A
EmS Number 2	:	S-B

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	:	DANGER!
Hazard statements	:	Harmful if swallowed. Harmful if absorbed through skin. Corrosive. Causes skin burns. Corrosive. Causes irreversible eye damage. 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	16.4 %

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

New Jersey Right To Know

2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5
copper carbonate	12069-69-1
Fatty acids, tall-oil	61790-12-3

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.

: Citrus, ext.

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: 1
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. .