

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: AB CUTRINE-PLUS GRANULAR

1. PRODUCT AND COMPANY IDENTIFICATION

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

Telephone: +12622554449
Telefax: +12622554268
Web: www.appliedbiochemists.com

REVISION DATE: 05/17/2011
SUPERCEDES: 02/15/2007

MSDS Number: 000000012575
SYNONYMS:
CHEMICAL FAMILY: None
DESCRIPTION / USE: None established
FORMULA: None established

Manufacturer
Advantis Technologies
1400 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	Possible cancer hazard
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Routes of Entry:	Inhalation, skin, eyes, ingestion
Chemical Interactions:	No known interactions
Medical Conditions Aggravated:	Pre-existing kidney disease, Pre-existing liver diseases

Human Threshold Response Data

Odor Threshold Not established for product.

Irritation Threshold Not established for product.

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. Inhalation of dust may cause mucous membrane and lung irritation with symptoms of coughing and choking.
Skin Toxicity:	This material is expected to be slightly irritating. Not expected to be absorbed through the skin.
Eye Toxicity:	Contact may cause mild irritation consisting of transient redness, swelling, and mucous membrane discharge to the conjunctiva. No corneal involvement or visual impairment is expected.
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. May be harmful if swallowed.
Acute Target Organ Toxicity:	May cause mild skin and eye irritation. Ingestion may cause mild gastrointestinal discomfort.

Prolonged (Chronic) Health Effects

Carcinogenicity:	The International Agency for Research on Cancer (IARC) has classified a component or components of this product as a Group 1 substance, Carcinogenic to Humans.
Reproductive and Developmental Toxicity:	Not known or reported to cause reproductive or developmental toxicity.
Inhalation:	Prolonged or repeated inhalation may cause kidney and liver damage.
Skin Contact:	There are no known or reported effects from chronic exposure.
Ingestion:	Chronic (repeated) exposure may cause damage to the liver and kidneys.
Sensitization:	This material is not known or reported to be a skin or respiratory sensitizer.
Chronic Target Organ Toxicity:	Exposure to large quantities of this material may result in liver and kidney damage, based on animal studies.

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>
Ethanolamine	141-43-5	
BASIC COPPER CARBONATE	12069-69-1	
QUARTZ (SiO ₂)	14808-60-7	
CRISTOBALITE (SiO ₂)	14464-46-1	

4. FIRST AID MEASURES

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.
<u>Flammable Properties</u>	
Fire / Explosion Hazards:	Decomposition of wet chemical may cause auto-ignition above 150° F.
Extinguishing Media:	Carbon dioxide (CO ₂) Dry powder Water fog 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.

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.
Water Release:	Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so.
Land Release:	Sweep up and shovel into suitable containers for disposal. Avoid creating dust. Do not contaminate ponds, waterways or ditches with chemical or used container.
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. Avoid breathing dust.
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Storage: Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Keep container closed when not in use. Avoid creating dusts.

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., 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 : Impervious gloves

Eye Protection: Safety glasses with side-shields

Protective Clothing Type: impervious clothing, Butyl rubber, Neoprene

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

Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
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

QUARTZ (SiO ₂)	14808-60-7	OSHA Z3	8-hour time weighted average
QUARTZ (SiO ₂)	14808-60-7	OSHA Z3	8-hour time weighted average
QUARTZ (SiO ₂)	14808-60-7	OSHA Z3	8-hour time weighted average
QUARTZ (SiO ₂)	14808-60-7	ACGIH	0.025 mg/m ³ TWA respirable dust fraction Respirable fraction; see Appendix C, paragraph C.
QUARTZ (SiO ₂)	14808-60-7	ACGIH	0.025 mg/m ³ TWA Respirable fraction
QUARTZ (SiO ₂)	14808-60-7	OSHA Z1	
QUARTZ (SiO ₂)	14808-60-7	NIOSH-IDLH	25 mg/m ³
QUARTZ (SiO ₂)	14808-60-7	NIOSH-IDLH	50 mg/m ³
CRISTOBALITE (SiO ₂)	14464-46-1	OSHA Z3	250 million particles per cubic foot TWA respirable Use ½ the value calculated from the count or mass formulae for quartz., The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable., division by %SiO ₂ +5

CRISTOBALITE (SIO ₂)	14464-46-1	OSHA Z3	10 mg/m ³ TWA respirable Use ½ the value calculated from the count or mass formulae for quartz., Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics: Aerodynamic diameter (unit density sphere): 2; Percent passing selector: 90 Aerodynamic diameter (unit density sphere): 2,5; Percent passing selector: 75 Aerodynamic diameter (unit density sphere): 3,5; Percent passing selector: 50 Aerodynamic diameter (unit density sphere): 5,0; Percent passing selector: 25 Aerodynamic diameter (unit density sphere): 10; Percent passing selector: 0 The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m ³ in the table for coal dust is 4.5 mg/m ³ ., division by %SiO ₂ +2
CRISTOBALITE (SIO ₂)	14464-46-1	OSHA Z3	30 mg/m ³ TWA Total dust Use ½ the value calculated from the count or mass formulae for quartz., division by %SiO ₂ +2
CRISTOBALITE (SIO ₂)	14464-46-1	ACGIH	0.025 mg/m ³ TWA respirable dust fraction Respirable fraction; see Appendix C, paragraph C.
CRISTOBALITE (SIO ₂)	14464-46-1	ACGIH	0.025 mg/m ³ TWA Respirable fraction
CRISTOBALITE (SIO ₂)	14464-46-1	OSHA Z3	
CRISTOBALITE (SIO ₂)	14464-46-1	OSHA Z1	

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	solid
Form	No data.
Color:	No data.
Odor:	No data.
Molecular Weight:	None established
Specific Gravity :	no data available
pH :	not applicable
Boiling Point:	not applicable
Freezing Point:	not applicable
Melting Point:	not applicable
Density:	no data available
Bulk Density:	1,200 - 1,300 kg/m ³
Vapor Pressure:	no data available
Vapor Density:	not applicable
Viscosity:	no data available
Solubility in Water:	slightly soluble
Partition coefficient n-octanol/water:	Not applicable
Evaporation Rate:	no data available
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	no data available
HAP Content	Not applicable

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions.
Conditions to Avoid:	Heat, flames and sparks., Exposure to moisture.
Chemical Incompatibility:	Strong acids, Nitrates
Hazardous Decomposition Products:	Carbon oxides, Oxides of nitrogen
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION



Component Animal Toxicology

Oral LD50 value:

Ethanolamine	LD50	= 1,700 mg/kg	rat
BASIC COPPER	LD50	= 1,350 mg/kg	rat
CARBONATE			

Component Animal Toxicology

Dermal LD50 value:

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

Component Animal Toxicology

Inhalation LC50 value:

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: no data available

Dermal LD50 value: no data available

Inhalation LC50 value: LC50 4 h > 2.59 mg/l rat

Skin Irritation: Slight Skin Irritant

Eye Irritation: Mild eye irritation

Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Acute Toxicity: May cause mild skin and eye irritation. Ingestion may cause mild gastrointestinal discomfort.

Subchronic / Chronic Toxicity: May cause kidney and liver damage based on animal data.

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

Ethanolamine	This chemical has been tested in laboratory animals and no evidence of teratogenicity, embryotoxicity or fetotoxicity was seen.
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Mutagenicity: Not known or reported to be mutagenic.

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

Carcinogenicity:	The International Agency for Research on Cancer (IARC) has classified a component or components of this product as a Group 1 substance, Carcinogenic 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.	
QUARTZ (SiO ₂)	The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 1 substance, Carcinogenic to Humans.	
CRISTOBALITE (SiO ₂)	The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 1 substance, Carcinogenic to Humans.	

12. ECOLOGICAL INFORMATION

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

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 : As a nonhazardous solid 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 AS A DOT HAZARDOUS MATERIAL
Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL,

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 product is regulated under the Federal Insecticide, Fungicide and Rodenticide Act. It must be used for purposes consistent with its labeling.

EPA Pesticide Registration Number: None established

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, Delayed (Chronic) 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 NESHAP (HON) Synthetic Organic Chemicals (40 CFR 63.100-.106, Table 1)
07 1999
Group I
ETHANOLAMINE

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
ETHANOLAMINE

Clean Air Act Haz. Air Pollutants Section 112:

ZUS_CAAHAP	None established
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ZUS_CAAHRP	None established
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CAA AP	None established
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State Right-to-Know Regulations Status of Ingredients

Pennsylvania:

CAS #	COMPONENT NAME
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141-43-5	Ethanolamine
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ZUSPA_RTK

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

New Jersey:

CAS #	COMPONENT NAME
141-43-5	Ethanolamine

ZUSNJ_RTK

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

Massachusetts:

CAS #	COMPONENT NAME
141-43-5	Ethanolamine

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24
ETHANOLAMINE 2-AMINOETHANOL

California Proposition 65:

CAS #	COMPONENT NAME
14464-46-1	CRISTOBALITE (SiO ₂)
14808-60-7	Quartz

ZUSCA_P65

California Proposition 65. Safe drinking water and toxic enforcement act.
Silica, crystalline (airborne particles of respirable size)
Carcinogen

California Proposition 65. Safe drinking water and toxic enforcement act.
airborne particles of respirable size
Silica, crystalline

Carcinogen

California Proposition 65. Safe drinking water and toxic enforcement act.
Silica, crystalline (airborne particles of respirable size)
Carcinogen

California Proposition 65. Safe drinking water and toxic enforcement act.
airborne particles of respirable size
Silica, crystalline
Carcinogen

WHMIS Hazard Classification:

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
1170
Monoethanolamine

Ingredient Disclosure List (WHMIS)
1988-01-20
Threshold limits: 1 Weight percent
1404
SILICA, CRYSTALLINE, QUARTZ

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
1491
Silica, crystalline, quartz

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: First formulated version in SAP.

AB CUTRINE-PLUS GRANULAR
REVISION DATE : 05/17/2011

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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. .