



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 ALGIMYCIN PWF

EPA Registration Number: 7364-09

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: 10/27/2010
 SUPERCEDES: 01/12/2007

MSDS Number: 000000012482
 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:	Eye and skin irritant
-----------------------------	------------------------------



Routes of Entry: Skin, eyes, ingestion
Medical Conditions Aggravated: None known.

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	2	0	0	
NFPA	2	0	0	

Immediate (Acute) Health Effects

Inhalation Toxicity: Not expected to be irritating. Not expected to be toxic by inhalation.

Skin Toxicity: Skin contact may cause moderate irritation consisting of transient redness and swelling. This irritant effect would not be expected to result in permanent damage.

Eye Toxicity: Contact may cause moderate irritation consisting of transient redness, swelling, and mucous membrane discharge to the conjunctiva.

Ingestion Toxicity: May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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.

Skin Contact: There are no known or reported effects from chronic exposure except for effects (if any) similar to those experienced from acute exposure.

Ingestion: There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.

Sensitization: Not expected to be a skin sensitizer.

Chronic Target Organ Toxicity: None known

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>
Copper Sulfate pentahydrate	7758-99-8	
sodium gluconate	527-07-1	
Citric Acid	77-92-9	
Carbonic acid, magnesium salt (1:1), mixt. with magnesium hydroxide (Mg(OH) ₂), hydrate	39409-82-0	

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

Flammable Properties

Fire / Explosion Hazards: Will not burn
Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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.

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: not applicable
Water Release: solubleIf 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).Do not contaminate ponds, waterways or ditches with chemical or used container.
Additional Spill Information : Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

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 vapors, mist or gas. The maximum usage level of this product in potable waters is 9.2 mg/L.



Storage: Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Do not freeze. Keep out of reach of children. Avoid contaminating food, feed, and water with this product. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: No exposure limits exist for the constituents of this product. Additional ventilation beyond that of general exhaust is not normally required.

Protective Equipment for Routine Use of Product

Respiratory Protection : Respiratory protection not normally needed.
 Skin Protection : 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.

Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
Copper Sulfate pentahydrate	7758-99-8	NIOSH-IDLH	100 mg/m3

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
 Form: No data.
 Color: blue
 Odor: Slight
 Molecular Weight: None established
 Specific Gravity : 1.2
 27 °C
 pH : 1.5 - 2.5



Boiling Point:	no data available
Freezing Point:	not applicable
Melting Point:	not applicable
Density:	no data available
Bulk Density:	no data available
Vapor Pressure:	no data available
Vapor Density:	> 1 (Air = 1.0)
Viscosity:	no data available no data available
Solubility in Water:	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.
Chemical Incompatibility:	Incompatible with strong bases and oxidizing agents.
Hazardous Decomposition Products:	Carbon oxides, Sulphur compounds
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

Copper Sulfate pentahydrate	LD50 = 300 mg/kg	Rat
Citric Acid	LD50 = 3,000 mg/kg	rat

Component Animal Toxicology

AB ALGIMYCIN PWF

REVISION DATE : 10/27/2010

Page 6 of 12



Dermal LD50 value:

Copper Sulfate pentahydrate	LD50 > 2,000 mg/kg	Rat
Citric Acid	LD50 Believed to be > 2,000 mg/kg	rabbit

Component Animal Toxicology

Inhalation LC50 value:

Copper Sulfate pentahydrate	No data
Citric Acid	no data available

Product Animal Toxicity

Oral LD50 value: Believed to be > 1,000 mg/kg

Dermal LD50 value: Believed to be > 2,000 mg/kg

Inhalation LC50 value: No data.

Skin Irritation: This material is expected to be moderately irritating.

Eye Irritation: Contact may cause moderate irritation consisting of transient redness, swelling, and mucous membrane discharge to the conjunctiva.

Skin Sensitization: Not expected to be a skin sensitizer.

Subchronic / Chronic Toxicity: There are no known or reported effects from chronic exposure.

Reproductive and Developmental Toxicity: No reproductive or developmental risk to humans is expected from exposure to this product.

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.

Copper Sulfate pentahydrate	Copper sulfate has been tested for mutagenicity, and there is equivocal evidence for its mutagenic potential. It was found to be negative in the Ames assay and in a yeast assay. It was found to be positive in the in vitro Syrian hamster embryo (SA7/SHE) cell transformation assay.
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.
Citric Acid The carcinogenicity has been evaluated through animal study and it was found not to be carcinogenic.

12. ECOLOGICAL INFORMATION

Overview: There is no data available for this product.

Ecological Toxicity Values for: Copper Sulfate pentahydrate

Bluegill	- (measured, renewal) 96 h LC50 = 0.892 mg/l
Bluegill	- (static). 96 h LC50 = 1.3 - 2.8 mg/l
Rainbow trout (Oncorhynchus mykiss)	- (static). 96 h LC50 = 0.13 mg/l
Blue crab (Callinectes sapidus)	- (static). 96 h LC50= 28 mg/l
Northern pink shrimp (Penaeus duorarum)	- (static). 96 h LC50= 16 mg/l
Marsh grass shrimp	- (static). 96 h LC50= 17 mg/l
Green algae (Selenastrum capricornutum),	- (static). 5 day EC50 (population growth) = 0.0031 mg/l
Anabaena flos-aquae (freshwater blue-green algae)	- (static). 5 day EC50 (population growth) = 0.029 mg/l
Skeletonema costatum (diatom)	- (static). 5 day EC50 (population growth) = 0.25 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 EC50 Approximately 120 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: D002.

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

Potential US EPA Waste Codes : D002

14. TRANSPORT INFORMATION

Land (US DOT): UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (COPPER SULFATE PENTAHYDRATE) 9 III

Water (IMDG): UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (COPPER SULFATE PENTAHYDRATE) 9 III MARINE POLLUTANT

Air (IATA): UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (COPPER SULFATE PENTAHYDRATE) 9 III

Emergency Response Guide Number: ERG # 171



Transportation Notes:

Material is not regulated for ground transportation within the US if shipped in non-bulk packages. 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-A, S-F

15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA): This is an EPA registered pesticide.
EPA Pesticide Registration Number: 7364-09

FIFRA Listing of Pesticide Chemicals (40 CFR 180): Not registered in the US under FIFRA.

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

Reportable Quantity (49 CFR 172.101, Appendix):

ZUS_CERCLA Reportable quantity COPPER AND COMPOUNDS
Value:

ZUS_SAR302 Reportable quantity None established

Supplier Notification Requirements (40 CFR 372.45), 313 Reportable Components

ZUS_SAR313 De minimis concentration None established



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 None established

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
7758-99-8	Copper Sulfate pentahydrate

ZUSPA_RTK

Pennsylvania: Hazardous substance list
1990-01-01
COPPER COMPOUNDS
Environmental hazard, hazardous substance

New Jersey:

CAS #	COMPONENT NAME
7758-99-8	Copper Sulfate pentahydrate

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
1989-12-01
COPPER compounds
hazardous substance

Massachusetts:

CAS #	COMPONENT NAME
ZUSMA_RTK	None established

AB ALGIMYCIN PWF

REVISION DATE : 10/27/2010



California Proposition 65:

CAS #	COMPONENT NAME
ZUSCA_P65	None established

WHMIS Hazard Classification:

Ingredient Disclosure List (WHMIS)

1988-01-20

Threshold limits: 1 Weight percent

431

COPPER COMPOUNDS, N.O.S.

Ingredient Disclosure List (WHMIS)

2007-08-24

Threshold limits: 1 Weight percent

80

Citric acid

16. OTHER INFORMATION

MSDS REVISION STATUS :

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. .