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| 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 90**

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|--|-------------------|--------------------------|
| Advantis Technologies 1200 Bluegrass Lakes Parkway Alpharetta, GA 30004 United States of America | REVISION DATE: | 02/18/2016 |
| | SUPERCEDES: | 05/26/2015 |
| | MSDS Number: | 000000024396 |
| | SYNONYMS: | |
| | CHEMICAL FAMILY: | None |
| | DESCRIPTION / USE | Water treatment chemical |
| | FORMULA: | None established |

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation : Category 2

Eye irritation : Category 2B

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

GHS label elements

Hazard pictograms :



Signal word :

Warning

Hazard statements :

H315 + H320 Causes skin and eye irritation.
H335 May cause respiratory irritation.

Precautionary statements :

Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

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

| <u>CAS OR CHEMICAL NAME</u> | <u>CAS #</u> | <u>% RANGE</u> |
|-----------------------------|--------------|----------------|
| Triethanolamine | 102-71-6 | < 10 |
| Ethanolamine | 141-43-5 | < 10 |
| BASIC COPPER CARBONATE | 12069-69-1 | < 10 |

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

Flammable Properties

| | |
|-----------------------------|---|
| Flash Point: | Not applicable |
| 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. |

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.

Spill Mitigation Procedures

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|--------------------------------|--|
| Air Release: | Not applicable |
| Water Release: | solubleIf the product contaminates rivers and lakes or drains inform respective authorities.If the product contaminates rivers and lakes or drains inform respective authorities.soluble |
| 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. |

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."

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/m ³ | 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/m ³ | NIOSH/GUIDE (2005) |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
Form: liquid

| | |
|--|---|
| Color: | dark blue |
| Odor: | faint |
| Molecular Weight: | None established |
| pH : | 9.0 - 10.5 () |
| Boiling Point: | 212 °F (100 °C) |
| Melting point/freezing point | Not applicable |
| Density | Not applicable |
| Bulk Density: | () no data available |
| Vapor Pressure: | no data available |
| Vapor Density: | no data available |
| Viscosity: | Not applicable 1.592 mm ² /s 68 °F (20 °C) ASTM D 445 |
| Solubility in Water: | soluble |
| Partition coefficient n-octanol/water: | no data available |
| Evaporation Rate: | no data available |
| Oxidizing: | None established |
| Volatiles, % by vol.: | no data available |
| VOC Content | This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM 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: | Heat |
| Chemical Incompatibility: | Acids, NitritesOxidizing agents |
| Hazardous Decomposition Products: | Hydrogen chloride gas, 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
 LD50 1,025 mg/kg Rabbit
 BASIC COPPER no data available
 CARBONATE

Component Animal ToxicologyInhalation LC50 value:

Triethanolamine A saturated vapor concentration for 8 hours (rats) did not produce any deaths.
 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 > 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.

| | | |
|------------------|--|--|
| 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: No data for product. Individual constituents are as follows: There is no data available for this product.

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 |

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 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

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 112 (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 SOCM I 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 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 |

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), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 2, 4, 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. .