PRODUCT NAME: GLB Pool Closing Kit—Algimycin Winter Algaecide

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE: 06/12/2015
SUPERCEDES: 03/17/2011

MSDS Number: 000000024411
SYNONYMS: None
CHEMICAL FAMILY: None established
DESCRIPTION / USE: None established
FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Not a hazardous substance or mixture according to US Regulation 29 CFR 1910.1200 (HazCom2012).

GHS Label element
Not a hazardous substance or mixture according to US Regulation 29 CFR 1910.1200 (HazCom2012). Based on available data, the classification criteria are not met. Handle in accordance with good industrial hygiene and safety practice.

Precautionary statements:

Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P270 Do not eat, drink or smoke when using this product.

Response:
P314 Get medical advice/ attention if you feel unwell.

Storage:
P410 + P403 Protect from sunlight. Store in a well-ventilated place.
P402 + P404 Store in a dry place. Store in a closed container.

Disposal:
P501 Dispose of contents/container in accordance with local regulation.
Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS OR CHEMICAL NAME</th>
<th>CAS #</th>
<th>% RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE</td>
<td>31512-74-0</td>
<td>1 - 10</td>
</tr>
<tr>
<td>2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C</td>
<td>26062-79-3</td>
<td>0 - 8</td>
</tr>
</tbody>
</table>

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

Fire / Explosion Hazards: 0 - 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

Air Release: Not applicable

Water Release: 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: 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

Components with workplace control parameters

no data available
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
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<td>Form</td>
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<td>Color</td>
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<td>Odor</td>
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<td>Molecular Weight</td>
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<tr>
<td>pH</td>
<td>6.0 - 8.0</td>
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<tr>
<td>Boiling Point</td>
<td>212 °F (100 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
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</tr>
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<td>Bulk Density</td>
<td>no data available</td>
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<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
<td>no data available</td>
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<td>Viscosity</td>
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<td>Solubility in Water</td>
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<td>Partition coefficient n-octanol/water</td>
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<td>Volatiles, % by vol.</td>
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<tr>
<td>VOC Content</td>
<td>no data available</td>
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</tbody>
</table>

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.

SECTION 10. STABILITY AND REACTIVITY

| Stability and Reactivity Summary  | Stable under normal conditions. |
| Conditions to Avoid               | Heat                          |
| Chemical Incompatibility          | Oxidizing agents             |
| Decomposition Temperature         | No data                       |

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 (60% Active Ingredient)</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE</td>
<td>1,951 mg/kg</td>
<td>Rat, male</td>
</tr>
<tr>
<td>2-PROPEN-1-AMINIUM, N,N-</td>
<td>&gt; 5,000 mg/kg</td>
<td>Rat</td>
</tr>
</tbody>
</table>
**Component Animal Toxicology**

**Dermal LD50 value:**
- POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE 2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C]
  - LD50 (60% Active Ingredient) > 2,000 mg/kg Rabbit
  - LD50 > 20,000 mg/kg Rabbit

**Component Animal Toxicology**

**Inhalation LC50 value:**
- POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE 2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C]
  - LC50 4 h (60% Active Ingredient) = 2.9 ppm Rat
  - No data

**Product Animal Toxicity**

**Oral LD50 value:** Believed to be > 2,000 mg/kg
**Dermal LD50 value:** Believed to be > 2,000 mg/kg
**Inhalation LC50 value:** No data.

**Skin Irritation:** Not expected to cause irritation.
**Eye Irritation:** Not expected to cause irritation.
**Skin Sensitization:** Not believed to be sensitising to skin.

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

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

**Mutagenicity:** Not known or reported to be mutagenic.

**Carcinogenicity:** This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE A two-year rat carcinogenicity study showed a slight increase in c-cell adenomas in female rats. Studies with male rats and male and female mice did not show any evidence of carcinogenic response. This product is not considered a carcinogen
SECTION 12. ECOLOGICAL INFORMATION

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

**Ecological Toxicity Values for: POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE**

<table>
<thead>
<tr>
<th>Species</th>
<th>96 h LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainbow trout (Salmo gairdneri)</td>
<td>0.047 mg/l</td>
</tr>
<tr>
<td>Bluegill sunfish</td>
<td>0.21 mg/l</td>
</tr>
<tr>
<td>Pimephales promelas (fathead minnow)</td>
<td>0.26 mg/l</td>
</tr>
<tr>
<td>Mysid shrimp</td>
<td>13 mg/l</td>
</tr>
<tr>
<td>Daphnia magna</td>
<td>0.37 mg/l</td>
</tr>
</tbody>
</table>

**Ecological Toxicity Values for: 2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C**

<table>
<thead>
<tr>
<th>Species</th>
<th>96 h LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluegill sunfish</td>
<td>0.82 - 1.3 mg/l, (40% Solution)</td>
</tr>
<tr>
<td>Rainbow trout (Salmo gairdneri)</td>
<td>0.37 mg/l, (40% Solution)</td>
</tr>
<tr>
<td>Daphnia magna</td>
<td>0.9 mg/l, (In clear water), (40% Solution)</td>
</tr>
<tr>
<td>Daphnia magna</td>
<td>1.2 - 2.5 mg/l, (In 50 ppm clay suspension), (40% Solution)</td>
</tr>
<tr>
<td>Daphnia magna</td>
<td>24.8 mg/l, (In 1000 ppm clay suspension), (40% Solution)</td>
</tr>
</tbody>
</table>

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

GLB Pool Closing Kit

REVISION DATE: 06/12/2015
UN number : 3082
Description of the goods : Environmentally hazardous substance, liquid, n.o.s.
                      : (Poly[oxyethylene (dimethyliminio) ethylene])
Class : 9
Packing group : III
Labels : 9
Emergency Response Guidebook Number : 171

TDG
UN number : 3082
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
                      : (Poly[oxyethylene (dimethyliminio) ethylene])
Class : 9
Packing group : III
Labels : 9

IATA
UN number : 3082
Description of the goods : Environmentally hazardous substance, liquid, n.o.s.
                      : (Poly[oxyethylene (dimethyliminio) ethylene])
Class : 9
Packing group : III
Labels : 9MI
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Packing instruction (passenger aircraft) : Y964

IMDG-CODE
UN number : 3082
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
                      : (Poly[oxyethylene (dimethyliminio) ethylene])
Class : 9
Packing group : III
Labels : 9
EmS Number 1 : F-A
EmS Number 2 : S-F
Marine pollutant : yes

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**:
- Harmful if swallowed.
- Harmful if absorbed through skin.
- Harmful if inhaled.
- Corrosive. Causes skin burns.
- Causes moderate eye irritation.
- This pesticide is toxic to fish.

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

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

**SARA 313**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**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 does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307.
US State Regulations

Massachusetts Right To Know
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know
Poly[oxyethylene (dimethyliminio) ethylene]
2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer
31512-74-0
26062-79-3

New Jersey Right To Know
Poly[oxyethylene (dimethyliminio) ethylene]
2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer
31512-74-0
26062-79-3

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:
TSCA: This is an EPA registered pesticide.
Poly[oxyethylene (dimethyliminio) ethylene]
Claytone APA

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECl (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION
SECTIONS REVISED: 1
Major References: Available upon request.
PRODUCT NAME:  GLB Pool Closing Kit--Oxy-Brite Shock

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE: 06/12/2015  
SUPERCEDES: 11/06/2012

MSDS Number: 000000024384  
SYNONYMS: None  
CHEMICAL FAMILY: None  
DESCRIPTION / USE: Water treatment chemical  
FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Oxidizing solids  :  Category 2
Skin corrosion  :  Category 1A
Skin sensitisation  :  Sub-category 1B
Serious eye damage  :  Category 1
Specific target organ toxicity - single exposure  :  Category 3

GHS Label element
Hazard pictograms  :

Signal word  : Danger

Hazard statements  : H272 May intensify fire; oxidiser.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.

Precautionary statements  : Prevention:
P260 Do not breathe vapours.  
P264 Wash hands thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/ protective clothing/ eye protection/
face protection.

**Response:**
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.  
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 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P362 + P364 Take off contaminated clothing and wash it 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 in accordance with local regulation.

### Other hazards
None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS OR CHEMICAL NAME</th>
<th>CAS #</th>
<th>% RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentapotassium bis(peroxymonosulphate) bis(sulphate)</td>
<td>70693-62-8</td>
<td>87 - 95</td>
</tr>
<tr>
<td>Sodium tetraborate pentahydrate</td>
<td>12179-04-3</td>
<td>1 - 4</td>
</tr>
<tr>
<td>POTASSIUM PEROXYDISULFATE</td>
<td>7727-21-1</td>
<td>1 - 4</td>
</tr>
<tr>
<td>Tetra(carbonato(2-))dihydroxypentamagnesium</td>
<td>7760-50-1</td>
<td>0 - 2</td>
</tr>
</tbody>
</table>

Active Ingredient in this composition is POTASSIUM PEROXYMONOSULFATE, CAS. No. 10058-23-8, Concentration: 43-47% (Typical 45%)
SECTION 4. FIRST AID MEASURES

General Advice: Call a physician immediately.

Inhalation: IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance.

Skin Contact: IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. If clothing comes in contact with the product, the clothing should be removed immediately and laundered before re-use. Seek medical attention.

Eye Contact: IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.

Ingestion: IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never 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.

Flammable Properties
Flash Point: Not applicable
Autoignition Temperature: Not applicable
Fire / Explosion Hazards: Material will not ignite or burn. Will release oxygen when heated, intensifying a fire

Extinguishing Media: Water only.
Fire Fighting Instructions: In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8. Use water to cool containers.

Upper Flammable / Explosive Limit, % in air: Not applicable
Lower Flammable / Explosive Limit, % in air: Not applicable

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: 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.

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.

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 inhalation of dust and fumes.

Storage: Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) closed.

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. Wear a NIOSH approved N95 respirator.

Skin Protection: Wear impervious gloves to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye Protection: Use chemical goggles.

Protective Clothing Type: Neoprene

General Protective Measures: An eye wash and safety shower should be provided in the immediate work area.

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components (CAS-No.)</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis (Update)</th>
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</thead>
<tbody>
<tr>
<td>Sodium tetraborate pentahydrate (12179-04-3)</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>ACGIH (02 2014)</td>
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<tr>
<td></td>
<td>STEL</td>
<td>6 mg/m³</td>
<td>ACGIH (02 2014)</td>
</tr>
<tr>
<td>POTASSIUM PEROXYDISULFATE (7727-52-7)</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>ACGIH (02 2014)</td>
</tr>
</tbody>
</table>
Active Ingredient in this composition is POTASSIUM PEROXYMONOSULFATE, CAS. No. 10058-23-8, Concentration: 43-47% (Typical 45%)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>solid</td>
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<td>Form</td>
<td>granular</td>
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<td>Color</td>
<td>purple</td>
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<tr>
<td>Odor</td>
<td>none</td>
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<tr>
<td>Molecular Weight</td>
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<td>pH</td>
<td>1.43 (10% solution)</td>
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<td>Boiling Point</td>
<td>no data available</td>
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<td>Melting point/freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
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<td>Vapor Density</td>
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</tr>
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<td>Viscosity</td>
<td></td>
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<tr>
<td>Solubility in Water</td>
<td>250 g/l</td>
</tr>
<tr>
<td></td>
<td>68 °F (20 °C)</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water</td>
<td>Not applicable</td>
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<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Oxidizing</td>
<td>None established</td>
</tr>
<tr>
<td>Volatiles, % by vol.</td>
<td>no data available</td>
</tr>
<tr>
<td>VOC Content</td>
<td>no data available</td>
</tr>
<tr>
<td>HAP Content</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity Summary: Stable under normal conditions., Product will not undergo hazardous polymerization.

Conditions to Avoid: High temperatures, Exposure to moist air or water

Chemical Incompatibility: Oxidizing agents, Heavy metal salts, Cyanides, Halides

Hazardous Decomposition Products: Decomposes when heated or dampened, releasing oxygen and heat, Oxides of sulfur

Decomposition Temperature: no data available
SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:
Pentapotassium bis(peroxymonosulphate) bis(sulphate) LD50 500 mg/kg Rat
Sodium tetraborate pentahydrate LD50 3,200 - 3,400 mg/kg = Rat

Component Animal Toxicology
Dermal LD50 value:
Pentapotassium bis(peroxymonosulphate) bis(sulphate) LD50 > 2,000 mg/kg Rat
Sodium tetraborate pentahydrate LD50 > 2,000 mg/kg Rabbit

Component Animal Toxicology
Inhalation LC50 value:
Sodium tetraborate pentahydrate Inhalation LC50 4 h > 2 mg/l Rat

Product Animal Toxicity
Oral LD50 value: Believed to be > 2,000 mg/kg
Dermal LD50 value: Believed to be > 2,000 mg/kg
Inhalation LC50 value: No data.
Skin Irritation: Corrosive to skin
Eye Irritation: Corrosive to eyes
Skin Sensitization: Possible skin sensitizer based on animal tests

Acute Toxicity: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract.
Subchronic / Chronic Toxicity: Not known or reported to cause subchronic or chronic toxicity.
Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.

Sodium tetraborate pentahydrate Boric acid has been evaluated in several laboratory animal species and in only one species was found to cause fetotoxicity at maternally toxic doses. Based on this data, this product may have the potential to cause developmental toxicity.

Mutagenicity: Not known or reported to be mutagenic.
**Carcinogenicity:**
This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

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**SECTION 12. ECOLOGICAL INFORMATION**

**Overview:**
Moderately toxic to fish and other aquatic organisms.

**Ecological Toxicity Values for:** Sodium tetraborate pentahydrate
- **Rainbow trout (embryo - larval stage):** 24 day LC50 (chronic toxicity) = 88 mg/l
- **Daphnia magna:** 24 h EC50 = 242 mg/l
- **Green algae (Scenedesmus subspicatus):** 96 h EC10 = 24 mg/l

**Ecological Toxicity Values for:** POTASSIUM PEROXYDISULFATE
- **Cyprinus carpio (Carp):** 48 h LC50 = 1,360 mg/l
- **Oncorhynchus mykiss (rainbow trout):** 48 h LC50 = 234 mg/l
- **Poecilia reticulata (guppy):** 48 h LC50 = 845 mg/l
- **Daphnia magna (Water flea):** 48 h LC50 = 92 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 will be a nonhazardous waste.

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

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**SECTION 14. TRANSPORT INFORMATION**

**DOT**
- **UN number:** 3260
Description of the goods : Corrosive solid, acidic, inorganic, n.o.s.
                         : (pentapotassium bis(peroxymonosulphate) bis(sulphate))
Class                 : 8
Packing group        : II
Labels               : 8
Emergency Response   : 154
Guidebook Number     :

**TDG**

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<td>Class</td>
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<td>EmS Number 2</td>
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**SECTION 15. REGULATORY INFORMATION**

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

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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 does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know
Dipotassium peroxodisulphate 7727-21-1
Sodium tetraborate pentahydrate 12179-04-3

Pennsylvania Right To Know
pentapotassium bis(peroxymonosulphate) bis(sulphate) 70693-62-8
Dipotassium peroxodisulphate 7727-21-1
Sodium tetraborate pentahydrate 12179-04-3

New Jersey Right To Know
pentapotassium bis(peroxymonosulphate) bis(sulphate) 70693-62-8
Dipotassium peroxodisulphate 7727-21-1
Sodium tetraborate pentahydrate 12179-04-3
tetra[carbonato(2-)]dihydroxypentamagnesium 7760-50-1

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

TSCA: The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

: Borax, 5 mole
: Nalco 9908

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECl (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 3
Major References: Available upon request.
SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE: 06/12/2015
SUPERCEDES: 07/06/2009

MSDS Number: 000000024463
SYNONYMS: None
CHEMICAL FAMILY: None
DESCRIPTION / USE: None established
FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Not a dangerous substance according to GHS.

GHS Label element
Not a dangerous substance according to GHS.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
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<th>CAS OR CHEMICAL NAME</th>
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<td>6132-04-3</td>
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<tr>
<td>Hexametaphosphate</td>
<td>68915-31-1</td>
<td>7 - 17</td>
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SECTION 4. FIRST AID MEASURES

Inhalation: IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops.

Skin Contact: IF ON SKIN: Flush skin with water for 15 minutes. Take off all contaminated clothing. Seek medical attention if irritation develops.
Eye Contact: IF IN EYES: Flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation develops.

Ingestion: IF SWALLOWED: Immediately drink water to dilute. Seek medical attention if symptoms develop. Never 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.

Flammable Properties

Fire / Explosion Hazards: Material will not ignite or burn.
Extinguishing Media: Not Applicable. - Choose extinguishing media suitable for surrounding materials.
Fire Fighting Instructions: 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: Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.

Spill Mitigation Procedures

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.

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.
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Protective Equipment for Routine Use of Product

Skin Protection: Wear impervious gloves to avoid skin contact.
Eye Protection: Use safety glasses with side shields.
Protective Clothing Type: Impervious

Components with workplace control parameters

no data available

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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<th>Property</th>
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<td>VOC Content</td>
<td>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.</td>
</tr>
<tr>
<td>HAP Content</td>
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SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid: High temperatures
Chemical Incompatibility: Strong oxidizing agents
Hazardous Decomposition Products: Oxides of phosphorus, Sodium oxide
Decomposition Temperature: No data

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:
Hexametaphosphate LD50 = 3,053 mg/kg Rat

Component Animal Toxicology
Dermal LD50 value:
Hexametaphosphate no data available

Component Animal Toxicology
Inhalation LC50 value:
Hexametaphosphate LC50 4 h > 3.69 mg/l Rat

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.

Skin Irritation: Contact would be expected to cause transient redness if not washed off and left on the skin for an extended period of time. Not considered to be a primary skin irritant.

Eye Irritation: Contact would be expected to cause transient redness if not washed out and left in the eye for an extended period of time. Not considered to be a primary eye irritant.

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

Subchronic / Chronic Toxicity: Not known or reported to cause subchronic or chronic toxicity.

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

Mutagenicity: Not known or reported to be mutagenic.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

SECTION 12. ECOLOGICAL INFORMATION

Overview: No aquatic toxicity data is available for this product.
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 : Spent or discarded material is not expected to be a hazardous waste.

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
Not dangerous goods

TDG
Not dangerous goods

IATA
Not dangerous goods

IMDG-CODE
Not dangerous goods

SECTION 15. REGULATORY INFORMATION

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

SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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 SOCMII 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 does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations
Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

CITRATE, SODIUM, DIHYDRATE polyphosphoric acids, sodium salts 6132-04-3 68915-31-1

New Jersey Right To Know

CITRATE, SODIUM, DIHYDRATE polyphosphoric acids, sodium salts 6132-04-3 68915-31-1

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

**TSCA**

: The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

: CITRATE, SODIUM, DIHYDRATE

**Inventories**

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

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**SECTION 16. OTHER INFORMATION**

**SECTIONS REVISED:**

First formulated version in SAP.

**Major References:**

Available upon request.

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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.