

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: ULTIMA ENDURE WATER CONDITIONER**

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Advantis Technologies**  
1400 Bluegrass Lakes Parkway  
Alpharetta, GA 30004

REVISION DATE: 08/14/2013  
SUPERCEDES:

MSDS Number: 000000016412  
SYNONYMS: Sodium tetraborate pentahydrate, disodium tetraborate pentahydrate, borax pentahydrate

CHEMICAL FAMILY: Inorganic borates  
DESCRIPTION / USE: Swimming pool water treatment  
FORMULA: Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>·5H<sub>2</sub>O

**2. HAZARDS IDENTIFICATION**

|                             |                                       |
|-----------------------------|---------------------------------------|
| OSHA Hazard Classification: | <b>Potential developmental hazard</b> |
|-----------------------------|---------------------------------------|

Routes of Entry: Inhalation, ingestion, eye contact  
Chemical Interactions: No known or reported interactions.  
Medical Conditions Aggravated: None known or reported

Human Threshold Response Data

Odor Threshold Not established.  
Irritation Threshold Not established.

**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                    | 0             | 0                   | 0                             |                              |

**Immediate (Acute) Health Effects**

|                              |  |
|------------------------------|--|
| Inhalation Toxicity:         | Not expected to be toxic by inhalation. Not a respiratory irritant. Can cause mechanical irritation if dusts are generated.  |
| Skin Toxicity:               | Not expected to be absorbed through the skin. Not expected to be irritating.   |
| Eye Toxicity:                | No significant adverse effects to health would be expected to occur. Can cause mechanical irritation if dusts are generated.   |
| Ingestion Toxicity:          | Slightly toxic if swallowed. Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting or diarrhea. |
| Acute Target Organ Toxicity: | There are no known or reported target organ effects from acute exposure.   |

**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. Chemicals of similar structure have been shown not to cause cancer in laboratory animals.  |
| Reproductive and Developmental Toxicity: | 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.                    |
| Inhalation:                              | There are no known or reported effects from chronic exposure.   |
| Skin Contact:                            | There are no known or reported effects from chronic exposure.   |
| Skin Absorption:                         | Not expected to be absorbed through the skin.   |
| Ingestion:                               | There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.   |
| Sensitization:                           | This material tested negative for skin sensitization in humans and laboratory animals.  |
| Chronic Target Organ Toxicity:           | There are no known or reported effects to humans from repeated exposure to this product.  |
| Supplemental Health Hazard Information : | Sodium tetraborate pentahydrate is chemically and toxicologically related to Boric Acid; the majority of the borate chronic toxicology studies were conducted using Boric Acid. Sodium tetraborate pentahydrate is converted to Boric Acid in biological systems. |

### **3. COMPOSITION / INFORMATION ON INGREDIENTS**

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| <u>CAS OR CHEMICAL NAME</u>     | <u>CAS #</u> | <u>% RANGE</u> |
|---------------------------------|--------------|----------------|
| Sodium tetraborate pentahydrate | 12179-04-3   |                |

### **4. FIRST AID MEASURES**

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|                 |  |
|-----------------|--|
| 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.      |

### **5. FIRE FIGHTING MEASURES**

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|                                |  |
|--------------------------------|--|
| Flammability Summary (OSHA):   | Product is not known to be flammable, combustible, pyrophoric or explosive.  |
| <u>Flammable Properties</u>    |  |
| Flash Point:                   | Not applicable   |
| Autoignition Temperature:      | Not applicable   |
| Fire / Explosion Hazards:      | Material will not ignite or burn.  |
| Extinguishing Media:           | 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. Use water to cool containers. |
| Hazardous Combustion Products: | None known   |

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

## **6. ACCIDENTAL RELEASE MEASURES**

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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: Contain all solids for treatment or disposal.  
Water Release: This material is soluble in water. Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so.  
Land Release: Sweep up and place in suitable clean, dry containers for reclamation or later disposal. Do not place spill materials back in their original containers. After removal, flush contaminated area thoroughly with water.  
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**

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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 and well ventilated place. Isolate from incompatible materials. Avoid creating dusts. Moisture may cause "caking".  
Incompatible Materials for Storage: Refer to Section 10, "Incompatible Materials."

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

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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

ULTIMA ENDURE WATER CONDITIONER  
REVISION DATE : 08/14/2013

Respiratory Protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.  
 Respirator Type : Wear a NIOSH approved N95 respirator.  
 Skin Protection : Wear impervious gloves to avoid skin contact.  
 Eye Protection: Use safety glasses with side shields.  
 Protective Clothing Type: Impervious

Exposure Limit Data

| <u>CHEMICAL NAME</u>            | <u>CAS #</u> | <u>Name of Limit</u> | <u>Exposure</u>                 |
|---------------------------------|--------------|----------------------|---------------------------------|
| Sodium tetraborate pentahydrate | 12179-04-3   | ACGIH                | 2 mg/m3 TWA Inhalable fraction  |
| Sodium tetraborate pentahydrate | 12179-04-3   | ACGIH                | 6 mg/m3 STEL Inhalable fraction |

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: solid  
 Form: crystalline solid  
 Color: white  
 Odor: None  
 Molecular Weight: 291.35  
 Specific Gravity : 1.8100  
 pH : 9.3 3% solution  
 Boiling Point: Not applicable  
 Freezing Point: Not applicable  
 Melting Point: 200 DEG°C / 392 DEG°F heated in closed space.  
 Density: No data  
 Vapor Pressure: Negligible @ 20 Deg. C  
 Vapor Density: No data  
 Viscosity: No data  
 Fat Solubility: No data  
 Solubility in Water: 3.8% @ 20°C; 51.2% @ 100°C  
 Partition coefficient n-octanol/water: No data  
 Evaporation Rate: Not applicable  
 Oxidizing: No data  
 Volatiles, % by vol.: No data  
 VOC Content: No data  
 HAP Content: No data

**10. STABILITY AND REACTIVITY**

Stability and Reactivity Summary: Stable under normal conditions. When heated it loses water, eventually forming anhydrous borax. Product will not undergo hazardous polymerization.

Conditions to Avoid: High temperatures, Contact with incompatible substances

Chemical Incompatibility: Strong oxidizing agents, acids, metals, Zirconium, Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.

Hazardous Decomposition Products: Boron oxides, Sodium oxide

Decomposition Temperature: No data

## 11. TOXICOLOGICAL INFORMATION

### Component Animal Toxicology

#### Oral LD50 value:

Sodium tetraborate pentahydrate LD50 3,200 - 3,400 mg/kg = Rat

### Component Animal Toxicology

#### Dermal LD50 value:

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: LD50 3,200 - 3,400 mg/kg = Rat

Dermal LD50 value: LD50 > 2,000 mg/kg Rabbit

Inhalation LC50 value: Inhalation LC50 4 h > 2.0 MG/L Rat

Skin Irritation: Not expected to be irritating.

Eye Irritation: Not expected to be irritating.

Skin Sensitization: This material tested negative for skin sensitization in humans and laboratory animals.

Acute Toxicity: There are no known or reported target organ effects from acute exposure.

Subchronic / Chronic There are no known or reported effects to humans from repeated exposure to this

Toxicity: product.

Reproductive and Developmental Toxicity: 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.

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: This chemical has been shown to be non-mutagenic based on a battery of assays.

Carcinogenicity: 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.

## 12. ECOLOGICAL INFORMATION

### 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                      |

## 13. DISPOSAL CONSIDERATIONS

**CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.**

Waste Disposal Summary : If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

Disposal Methods : As a nonhazardous 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,

Flash Point: Not applicable

Air (IATA): NOT REGULATED AS A HAZARDOUS MATERIAL,

Emergency Response Guide Number: Not applicable

Transportation Notes: Inhalation is not a normal route of absorption relative to transportation. 1) Inhalation toxicity data indicates product to be toxic by inhalation, however, diameter of over 90% of granules well exceed 10 micron limit. Particles cannot be inhaled through lungs.

## 15. REGULATORY INFORMATION

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### UNITED STATES:

Toxic Substances Control Act (TSCA): The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

EPA Pesticide Registration Number: None established

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   | 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

**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

**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   |
|-----------|------------------|
| ZUSPA_RTK | None established |

**New Jersey:**

| CAS #     | COMPONENT NAME   |
|-----------|------------------|
| ZUSNJ_RTK | None established |

**Massachusetts:**

| CAS #     | COMPONENT NAME                                       |
|-----------|--|
| ZUSMA_RTK | borax pentahydrate disodium tetraborate pentahydrate |

Massachusetts Right to Know List of Chemicals and Hazard Classifications  
 1991-07-01

BORATES, TETRA, SODIUM SALTS  
massachusetts hazardous substance

Massachusetts Right to Know List of Chemicals and Hazard Classifications  
1993-04-24  
BORATES, TETRA, SODIUM SALTS, PENTAHYDRATE

**California Proposition 65:**

| CAS #     | COMPONENT NAME   |
|-----------|------------------|
| ZUSCA_P65 | None established |

**WHMIS Hazard Classification:**

None established

**16. OTHER INFORMATION**

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MSDS REVISION STATUS :

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. .