

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: **Salt Solutions by Ultima Salt Startup**

1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE: 10/26/2011
SUPERCEDES:
MSDS Number: 000000014477
SYNONYMS:
CHEMICAL FAMILY: None
DESCRIPTION / USE: None established
FORMULA: None established

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	This product is not considered to be hazardous under OSHA 29 CFR 1910.1200.
-----------------------------	------------------------------------------------------------------------------------

Routes of Entry: Inhalation, skin, eyes, ingestion
Chemical Interactions: No known interactions
Medical Conditions Aggravated: None known or reported

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:	Inhalation of dust may cause irritation to the mucous membranes of the respiratory tract. Not expected to be toxic by inhalation.
Skin Toxicity:	Not expected to be toxic from dermal contact. 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 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. Not expected to be toxic by ingestion.
Acute Target Organ Toxicity:	May cause mild eye irritation. Inhalation of dust may cause mild mucous membrane irritation (includes upper respiratory tract). Ingestion may cause gastrointestinal discomfort.

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. The carcinogenicity of the active ingredient in this product has been evaluated through animal study and it was found not to be carcinogenic.
Reproductive and Developmental Toxicity:	Not known or reported to cause reproductive or developmental toxicity. An ingredient in this product has been tested and reproductive and developmental toxicity was observed in laboratory animals only at high doses that were maternally toxic.
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.
Skin Absorption:	There are no known or reported effects from chronic exposure.
Ingestion:	There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.
Sensitization:	This material is not known or reported to be a skin or respiratory sensitizer.
Chronic Target Organ Toxicity:	There are no known or reported effects to humans from repeated exposure to this product.
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>
Sodium tetraborate pentahydrate	12179-04-3	
Aluminum Sulfate	17927-65-0	
1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	108-80-5	
Hexametaphosphate	68915-31-1	
MAGNESIUM CARBONATE	546-93-0	

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.

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: 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: 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.

Spill Mitigation Procedures

Air Release: Keep people away from and upwind of spill/leak.

Water Release: This material is soluble in water. If the product contaminates rivers and lakes or drains inform respective authorities.

Land Release: Sweep up and shovel into suitable containers for disposal. Avoid dust generation. 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. Evacuate personnel to safe areas. Use personal protective equipment as required.

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 and well ventilated place. Keep containers tightly closed when not in use.

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.
 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
 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>
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
1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	108-80-5	WEEL	10 mg/m3 TWA Total
1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	108-80-5	WEEL	5 mg/m3 TWA Respirable.
MAGNESIUM CARBONATE	546-93-0	OSHA Z1	15 mg/m3 TWA total dust
MAGNESIUM CARBONATE	546-93-0	OSHA Z1	5 mg/m3 TWA respirable fraction

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: granular
 Form: No data.
 Color: white
 Odor: No data.
 Molecular Weight: None established
 Specific Gravity : not applicable
 pH : 6.0 - 7.0
 1% solution
 Boiling Point: not applicable
 Freezing Point: not applicable
 Melting Point: not applicable

Density:	0.910 - 0.940 g/cm ³
Vapor Pressure:	no data available
Vapor Density:	no data available
Viscosity:	No data
Solubility in Water:	not applicable
Partition coefficient n-octanol/water:	No data.
Evaporation Rate:	not applicable
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	not applicable
HAP Content	No data

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Chemical Incompatibility:	Oxidizing agents
Hazardous Decomposition Products:	Carbon oxides, Oxides of nitrogen, Sulphur oxides, phosphorus oxides, cyanic acid
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

Sodium tetraborate pentahydrate	LD50 3,200 - 3,400 mg/kg =	Rat
Aluminum Sulfate	LD50 anhydrous substance = 6,207 mg/kg	Mouse
Aluminum Sulfate	LD50 anhydrous substance = 1,930 mg/kg	Rat
1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	LD50 > 10,000 mg/kg	Rat
Hexametaphosphate	LD50 = 3,053 mg/kg	rat

Component Animal Toxicology

Dermal LD50 value:

Sodium tetraborate pentahydrate	LD50 > 2,000 mg/kg	Rabbit
Aluminum Sulfate	LD50 anhydrous substance	Believed to be > 2,000 mg/kg Rabbit
1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	LD50 > 7,940 mg/kg	Rabbit
Hexametaphosphate	no data available	

Component Animal Toxicology

Inhalation LC50 value:

Sodium tetraborate pentahydrate	Inhalation LC50 4 h > 2 MG/L	Rat
Aluminum Sulfate	No data	
1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	No data	
Hexametaphosphate	LC50 4 h > 3.69 MG/L	rat

Product Animal Toxicity

<u>Oral LD50 value:</u>	LD50	Believed to be > 5,000 mg/kg	rat
<u>Dermal LD50 value:</u>	LD50	Believed to be > 2,000 mg/kg	rabbit
<u>Inhalation LC50 value:</u>	no data available		

Skin Irritation:	Not expected to be irritating.
Eye Irritation:	This material is expected to be slightly irritating.
Skin Sensitization:	This material is not known or reported to be a skin or respiratory sensitizer.

Acute Toxicity: May cause mild eye irritation. Inhalation of dust may cause mild mucous membrane irritation (includes upper respiratory tract). Ingestion may cause gastrointestinal discomfort.

Subchronic / Chronic Toxicity: Target organ damage to the kidneys from ingestion due to precipitation of crystals of cyanuric acid which results in formation of kidney stones.

Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity. An ingredient in this product has been tested and reproductive and developmental toxicity was observed in laboratory animals only at high doses that were maternally toxic.

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. The active ingredient in this product has been tested in a battery of mutagenicity assays and was found to be non-mutagenic under the conditions of the tests.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. The carcinogenicity of the active ingredient in this product has been evaluated through animal study and it was found not to be carcinogenic.

12. ECOLOGICAL INFORMATION

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

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: Aluminum Sulfate

Largemouth bass	-	96 h LC50 = 250 mg/l (anhydrous aluminum sulfate)
Mosquito fish	-	96 h LC50 = 235 mg/l (anhydrous aluminum sulfate)

Ecological Toxicity Values for: 1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE

Bluegill sunfish	-	(static). 96 h LC50 > 2,100 mg/l
Fathead minnow (Pimephales promelas),	-	(static). 96 h LC50 > 2,100 mg/l
Rainbow trout (Salmo gairdneri),	-	(static). 96 h LC50 > 2,100 mg/l
Daphnia magna,	-	(static). 48 h LC50> 1,000 mg/l
Algae	-	96 h EC50 = 655 mg/l
Bobwhite quail	-	8 day dietary LC50 > 10,000 ppm
Mallard duck	-	8 day dietary LC50 > 10,000 ppm

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 waste, it should be disposed of in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

Land (US DOT): Not Regulated NOT REGULATED AS A DOT HAZARDOUS MATERIAL
 Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL, Marine Pollutant:
 No

Air (IATA): NOT REGULATED AS A HAZARDOUS MATERIAL,
 Emergency Response Guide Number: Not applicable

15. REGULATORY INFORMATION

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 None
 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:

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:

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 1 Weight percent
96
Isocyanuric acid

16. OTHER INFORMATION

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. .