

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: **Ultima Total Control**

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Advantis Technologies</b> 1200 Bluegrass Lakes Parkway Alpharetta, GA 30004 United States of America	REVISION DATE:	02/12/2016
	SUPERCEDES:	08/20/2015
	MSDS Number:	000000024368
	SYNONYMS:	none
	CHEMICAL FAMILY:	None
	DESCRIPTION / USE	Water treatment chemical
	FORMULA:	None established

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Oxidizing solids	:	Category 2
Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Acute toxicity (Inhalation)	:	Category 4
Specific target organ toxicity - single exposure	:	Category 3

### GHS label elements

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.  
 H332 Harmful if inhaled.  
 H335 May cause respiratory irritation.

## Precautionary statements

: **Prevention:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P220 Keep/Store away from clothing/ combustible materials.  
 P221 Take any precaution to avoid mixing with combustibles.  
 P260 Do not breathe vapours.  
 P264 Wash hands thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 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.  
 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/doctor.  
 P321 Specific treatment (see supplemental first aid instructions on this label).  
 P330 Rinse mouth.  
 P363 Wash contaminated clothing before reuse.  
 P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

**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

<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
Sodium Bicarbonate	144-55-8	40 - 50
SODIUM DICHLORO-S-TRIAZINE TRIONEDIHYDRATE	51580-86-0	30 - 40
Copper Sulfate pentahydrate	7758-99-8	4 - 13
Sodium Citrate	6132-04-3	4 - 13

### 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.
Notes to Physician:	Probable mucosal damage may contraindicate the use of gastric lavage.

### 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: no data available

Fire / Explosion Hazards:	May intensify fire; oxidizer.
Extinguishing Media:	Water only. Do not use dry extinguishers containing ammonium compounds.
Fire Fighting Instructions:	Use water to cool containers exposed to fire. On small fires, use water spray or fog. On large fires, use heavy deluge or fog streams. Flooding amounts of water may be required before extinguishment can be accomplished. Do not use dry extinguishers containing ammonium compounds. Response to this material requires the use of a full encapsulated suit and full-face (NIOSH approved) self-contained breathing apparatus (SCBA).
Hazardous Combustion Products:	During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Upper Flammable / Explosive Limit, % in air:	no data available
Lower Flammable / Explosive Limit, % in air:	no data available

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations:	Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air respirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment. Compatible materials for response to this material are: neoprene. Protection concerns must also address the following: If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.
<u>Spill Mitigation Procedures</u>	
Air Release:	Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog.
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 place in suitable clean, dry containers for reclamation or later disposal. Avoid dust generation. Do not place spill materials back in their original containers.
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., A NIOSH approved full-face air purifying respirator equipped with combination chlorine/P100 cartridges. 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 : 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, Nitrile, Natural rubber (This includes: gloves, boots, apron, protective suit)

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

### Components with workplace control parameters

Components (CAS-No.)	Value	Control parameters	Basis (Update)
Copper Sulfate pentahydrate (7758-99-8) [as Cu]	TWA	1 mg/m3	ACGIH (03 2014)
[as Cu]	TWA	0.2 mg/m3	ACGIH (03 2014)

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: solid  
 Form: granules  
 Color: <\*\* Phrase does not exist: LONZA - SX0900048460 \*\*>  
 Odor: Mild chlorine-like

Molecular Weight:	None established
pH :	7.0 - 7.5 ( ) 10 g/l (as aqueous solution)
Boiling Point:	Not applicable
Melting point/freezing point	no data available
Density	no data available
Bulk Density:	( ) no data available
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Viscosity:	
Solubility in Water:	20 g/l 68 °F (20 °C) soluble
Partition coefficient n-octanol/water:	
Evaporation Rate:	no data available
Oxidizing:	no data available
Volatiles, % by vol.:	Not applicable
VOC Content	no data available 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). This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.
HAP Content	no data available

## SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions., Product will not undergo hazardous polymerization.
Conditions to Avoid:	Sparks, open flame, other ignition sources, and elevated temperatures., Contact with incompatible substances
Chemical Incompatibility:	This product is chemically reactive with many substances, including, e.g., other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive , flammable or combustible materials.
Hazardous Decomposition Products:	Chlorine, Nitrogen trichloride, Carbon monoxide
Decomposition Temperature:	no data available

## SECTION 11. TOXICOLOGICAL INFORMATION

### Component Animal Toxicology

#### Oral LD50 value:

Sodium Bicarbonate	LD50	> 5,000 mg/kg	Rat
SODIUM DICHLORO-S-TRIAZINE TRIONEDIHYDRATE	LD50	= 735 mg/kg	Rat

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Copper Sulfate pentahydrate LD50 = 300 mg/kg Rat

Component Animal Toxicology

Dermal LD50 value:

Sodium Bicarbonate LD50 > 2,000 mg/kg Rabbit  
 SODIUM DICHLORO-S-TRIAZINE TRIONEDIHYDRATE LD50 > 2,000 mg/kg Rabbit  
 Copper Sulfate pentahydrate LD50 >= 1,000 mg/kg Rabbit

Component Animal Toxicology

Inhalation LC50 value:

Sodium Bicarbonate Inhalation LC50 4 h (Whole-body) > 4.74 mg/l Rat  
 SODIUM DICHLORO-S-TRIAZINE TRIONEDIHYDRATE Inhalation LC50 1 h (aerosol dust), (Nose Only) approximately 2.16 mg/l Rat  
 Inhalation LC50 4 h (aerosol dust), (Nose Only) approximately 0.54 mg/l Rat  
 Copper Sulfate pentahydrate no data available

Product Animal Toxicity

Oral LD50 value: LD50 Believed to be approximately 1,200 mg/kg Rat  
Dermal LD50 value: LD50 Believed to be > 2,000 mg/kg Rabbit  
Inhalation LC50 value: LC50 1 h (aerosol dust) Believed to be approximately 5.2 mg/l Rat LC50 4 h (aerosol dust) Believed to be approximately 1.3 mg/l Rat

Skin Irritation: DRY MATERIAL CAUSES MODERATE SKIN IRRITATION., WET MATERIAL CAUSES SKIN BURNS.

Eye Irritation: Corrosive to eyes.

Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer. The active ingredient in this product tested negative for skin sensitization in laboratory animals.

Acute Toxicity: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract. The dry material is irritating to the skin. However when wet, it will produce burns to the skin.

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

Reproductive and Developmental Toxicity: No reproductive or developmental risk to humans is expected from exposure to this product. The active ingredient in this product has been tested in laboratory animals and no evidence of teratogenicity or fetotoxicity was seen.

Sodium Bicarbonate This product did not cause developmental effects in a

study with laboratory animals.

**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.

Sodium Bicarbonate	This chemical has been tested and was shown to be non-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.

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

Sodium Bicarbonate	This material did not cause cancer in long-term animal studies.
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## SECTION 12. ECOLOGICAL INFORMATION

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

### Ecological Toxicity Values for: Sodium Bicarbonate

Bluegill sunfish	- (measured, flow-through) 96 h LC50 = 7,100 mg/l
Bluegill sunfish	- (nominal, static). 96 h LC50 = 8,600 mg/l
Rainbow trout (Oncorhynchus mykiss)	- (measured, flow-through) 96 h LC50 = 7,700 mg/l
Mosquito fish	- (nominal, static). 96 h LC50 = 7,550 mg/l
Daphnia magna,	- (measured, flow-through) 48 h LC50= 4,100 mg/l
Daphnia magna,	- (nominal, static). 48 h EC50= 1,640 mg/l
Ceriodaphnia dubia	- (nominal, static). 48 h LC50= 1,075 mg/l
Daphnia magna,	- (static, renewal) 21 day EC50 (chronic toxicity)> 576 mg/l

### Ecological Toxicity Values for: SODIUM DICHLORO-S-TRIAZINE TRIONEDIHYDRATE

Rainbow trout (Salmo gairdneri),	- (nominal, flow-through) 96 h LC50 = 0.22 mg/l
Bluegill	- (nominal, flow-through) 96 h LC50 = 0.28 mg/l
Water flea (Daphnia magna),	- (nominal, static). 48 h LC50= 0.196 mg/l
Mallard duck	- Oral LD50 = 3,300 mg/kg
Bobwhite quail	- Oral LD50 = 730 mg/kg
Mallard duck	- 8 d Dietary LC50 > 10,000 mg/kg
Bobwhite quail	- 8 d Dietary LC50 > 10,000 mg/kg

### 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 ( <i>Oncorhynchus mykiss</i> )	- (static). 96 h LC50 = 0.13 mg/l
Blue crab ( <i>Callinectes sapidus</i> )	- (static). 96 h LC50= 28 mg/l
Northern pink shrimp ( <i>Penaeus duorarum</i> )	- (static). 96 h LC50= 16 mg/l
Marsh grass shrimp	- (static). 96 h LC50= 17 mg/l
Green algae ( <i>Selenastrum capricornutum</i> ),	- (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
<i>Skeletonema costatum</i> (diatom)	- (static). 5 day EC50 (population growth) = 0.25 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 according to U.S. RCRA regulations. Dispose of in accordance with all Local, State, Federal, and Provincial Environmental Regulations.

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

## SECTION 14. TRANSPORT INFORMATION

### DOT

UN number : 3077  
Description of the goods : Environmentally hazardous substances, solid, n.o.s.  
(Sodium dichloro-s-triazine trionedihydrate, Copper Sulfate pentahydrate)  
Class : 9  
Packing group : III  
Labels : 9  
Emergency Response : 171  
Guidebook Number

### TDG

UN number : 3077  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.  
(Sodium dichloro-s-triazine trionedihydrate, Copper Sulfate pentahydrate)

Class : 9  
Packing group : III  
Labels : 9

**IATA**

UN number : 3077  
Description of the goods : Environmentally hazardous substance, solid, n.o.s.  
(Sodium dichloro-s-triazine trionedihydrate, Copper Sulfate pentahydrate)

Class : 9  
Packing group : III  
Labels : 9MI  
Packing instruction (cargo aircraft) : 956  
Packing instruction (passenger aircraft) : 956  
Packing instruction (passenger aircraft) : Y956

**IMDG-CODE**

UN number : 3077  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Sodium dichloro-s-triazine trionedihydrate, Copper Sulfate pentahydrate)

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 : DANGER!  
Hazard statements : Harmful if swallowed.  
Harmful if absorbed through skin.  
May be fatal if inhaled.  
Corrosive. Causes skin burns.  
Corrosive. Causes irreversible eye damage.  
This pesticide is toxic to fish.

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

**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Copper Sulfate pentahydrate	7758-99-8		112
Copper Sulfate pentahydrate	7758-99-8	10	112

**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 Sulfate      7758-99-8  
pentahydrate

**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**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Copper Sulfate      7758-99-8  
pentahydrate

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Copper Sulfate      7758-99-8  
pentahydrate

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Copper Sulfate 7758-99-8  
pentahydrate

#### US State Regulations

##### Massachusetts Right To Know

sodium 51580-86-0  
dichloroisocyanurate,  
dihydrate  
Copper Sulfate 7758-99-8  
pentahydrate

##### Pennsylvania Right To Know

Sodium hydrogencarbonate 144-55-8  
sodium 51580-86-0  
dichloroisocyanurate,  
dihydrate  
Copper Sulfate 7758-99-8  
pentahydrate  
CITRATE, SODIUM, 6132-04-3  
DIHYDRATE

##### New Jersey Right To Know

Sodium hydrogencarbonate 144-55-8  
sodium 51580-86-0  
dichloroisocyanurate,  
dihydrate  
Copper Sulfate 7758-99-8  
pentahydrate  
CITRATE, SODIUM, 6132-04-3  
DIHYDRATE

##### 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.

#### 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)

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## SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 1  
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. .