

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: "**QUANTUM 1**" TABLETS"

EPA Registration Number: 7364-41

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Supplier Quantum Biochemical 1400 Bluegrass Lakes Parkway , Alpharetta, GA, 30004 USA	REVISION DATE: 05/26/2015 SUPERCEDES: 11/02/2009
Telephone: +17705215999 Telefax: +17705215959 Web: www.poolspacare.com	MSDS Number: 000000024529 SYNONYMS: Trichloroisocyanuric Acid, TCCA, Trichlor
Manufacturer Advantis Technologies 1200 Bluegrass Lakes Parkway Alpharetta, GA 30004 United States of America	CHEMICAL FAMILY: None DESCRIPTION / USE: None established FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids	:	Category 2
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 3
Skin irritation	:	Category 2
Serious eye damage	:	Category 1
Specific target organ toxicity -	:	Category 3 (Respiratory system)

single exposure

GHS Label element

Hazard pictograms



Signal word

: Danger

Hazard statements

: H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H331 Toxic 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 or doctor/ physician if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ 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 or doctor/ physician.
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>
TRICHLORO-S-TRIAZINETRIONE	87-90-1	96 - 100

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 or pyrophoric.,
 NFPA Oxidizer Class: Meets the criteria of an NFPA Class 1
 Oxidizer

Flammable Properties

Flash Point: Not applicable
 Autoignition Temperature: Not applicable

Fire / Explosion Hazards:	During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Closed containers may explode (due to the build up of steam pressure) when exposed to extreme heat.
Extinguishing Media:	Water only.
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.
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: 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.

Spill Mitigation Procedures

Air Release:

Water Release:

Vapors may be suppressed by the use of water fog.

This material is heavier than water. This material is soluble in water. Stop water flow or divert water flow around spill if possible and safe to do so. Begin monitoring for available chlorine and pH immediately.

Land Release:

Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea. Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container.

Additional Spill Information :

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300 REPORTABLE QUANTITY: Not Applicable (Per 40 CFR 302.4) Hazardous concentrations in air may be found in local spill area and immediately downwind. If spill material is still dry, do not put water directly on this product as a gas evolution may occur. If material is wet, contact 1-800-654-6911 for proper stabilization procedures. Dispose of spill residues per guidelines under Section 13, Disposal Consideration. This material may be neutralized for disposal; you are requested to contact Arch Chemicals at 1-800-654-6911 before beginning any such procedure.

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 dust, mist, vapor or gas.
Storage:	Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) closed. Avoid creating dusts.
Shelf Life Limitations:	Indefinite. Available chlorine loss can be as little as 0.1% per year at ambient temperatures.
Incompatible Materials for Storage:	Organic materials, Reducing agents, nitrogen containing materials, oxidizers, Acids, Bases, (Incompatible materials for packaging: paper, cardboard)
Do Not Store At temperatures Above:	60 °C

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:	Nitrile, Natural rubber, Neoprene (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

no data available

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	solid
Form	solid
Color:	white
Odor:	Sharp, chlorine-like, bleach odor

Molecular Weight:	232.41 g/mol
pH :	2.7 - 3.2 () 10 g/l (as aqueous solution)
Boiling Point:	Not applicable
Melting point/freezing point	Not applicable
Density	1.6 - 1.9 g/cm ³
Bulk Density:	1,160 - 1,900 kg/m ³ ()
Vapor Pressure:	no data available
Vapor Density:	Not applicable
Viscosity:	Not applicable no data available
Solubility in Water:	12 g/l 77 °F (25 °C)
Partition coefficient n-octanol/water:	Not applicable
Evaporation Rate:	Not applicable
Oxidizing:	None established
Volatiles, % by vol.:	Not applicable
VOC Content	Not applicable 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	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid:	Sparks, open flame, other ignition sources, and elevated temperatures., Contact with small amounts of water may result in an exothermic reaction with the liberation of toxic fumes., Damp or slightly wet product (will evolve nitrogen trichloride), May be unstable at temperatures above 225 Deg. C (437 Deg. F)
Chemical Incompatibility:	organic materials, Oils, Grease, Sawdust, Reducing agents, nitrogen-containing compounds, oxidizers, acids, Bases, Dry fire extinguishers containing ammonium compounds
Hazardous Decomposition Products:	Nitrogen trichloride, Chlorine, nitrous oxides, cyanates, Carbon monoxide, Carbon dioxide
Decomposition Temperature:	225 °C

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

TRICHLORO-S- LD50 = 490 mg/kg Rat
TRIAZINETRIONE

Component Animal ToxicologyDermal LD50 value:

TRICHLORO-S- LD50 > 2,000 mg/kg Rabbit
 TRIAZINETRIONE

Component Animal ToxicologyInhalation LC50 value:

TRICHLORO-S- LC50 4 h (aerosol dust), (Nose Only) Approximately 0.54 mg/l Rat
 TRIAZINETRIONE
 LC50 1 h (aerosol dust), (Nose Only) Approximately 2.16 mg/l Rat

Product Animal Toxicity

Oral LD50 value: LD50 = 490 mg/kg Rat

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

Inhalation LC50 value: LC50 4 h (aerosol dust), (Nose Only) Approximately 0.54 mg/l Rat LC50 1 h (aerosol dust), (Nose Only) Approximately 2.16 mg/l Rat

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

Eye Irritation: Corrosive to eyes.

Skin Sensitization: Negative skin sensitizer, guinea pig - Buehler Method

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: There are no known or reported effects from repeated exposure., Toxicological investigation indicates it does not produce significant effects from chronic exposure.

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

TRICHLORO-S-TRIAZINETRIONE Not known or reported to cause reproductive or developmental toxicity. A similar product has been tested and it did not produce teratogenic or fetotoxic effects in laboratory animals.

Mutagenicity: This product was determined to be non-mutagenic in the Ames assay.

TRICHLORO-S-TRIAZINETRIONE This product was determined to be non-mutagenic in the Ames assay.

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

TRICHLORO-S-TRIAZINETRIONE This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

SECTION 12. ECOLOGICAL INFORMATION

Overview: Highly toxic to fish and other aquatic organisms.

Ecological Toxicity Values - Product:

Rainbow trout (<i>Salmo gairdneri</i>),	-	96 h LC50	0.32 mg/l
Bluegill sunfish	-	96 h LC50	0.30 mg/l
Daphnia magna,	-	48 h LC50	0.21 mg/l
Mallard duck	-	8 d Dietary LC50	> 10,000 ppm
Mallard duck	-	Acute Oral LD50	1,600 mg/kg
Bobwhite quail	-	8 d Dietary LC50	7,422 ppm

Ecological Toxicity Values for: TRICHLORO-S-TRIAZINETRIONE

Rainbow trout (<i>Salmo gairdneri</i>),	-	96 h LC50	0.32 mg/l
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Bobwhite quail	-	8 d Dietary LC50	7,422 ppm

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 meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001. If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal restrictions under 40 CFR 268 and must be managed accordingly.

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

SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 2468
Description of the goods : Trichloroisocyanuric acid, dry

Class : 5.1
 Packing group : II
 Labels : 5.1
 Emergency Response : 140
 Guidebook Number

TDG

UN number : 2468
 Description of the goods : TRICHLOROISOCYANURIC ACID, DRY
 Class : 5.1
 Packing group : II
 Labels : 5.1

IATA

UN number : 2468
 Description of the goods : Trichloroisocyanuric acid, dry
 Class : 5.1
 Packing group : II
 Labels : 5.1
 Packing instruction (cargo aircraft) : 562
 Packing instruction (passenger aircraft) : 558
 Packing instruction (passenger aircraft) : Y544

IMDG-CODE

UN number : 2468
 Description of the goods : TRICHLOROISOCYANURIC ACID, DRY
 Class : 5.1
 Packing group : II
 Labels : 5.1
 EmS Number 1 : F-A
 EmS Number 2 : S-Q

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.
 May be fatal 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

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 SOCM 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

trichloroisocyanuric acid 87-90-1

Pennsylvania Right To Know

trichloroisocyanuric acid 87-90-1

New Jersey Right To Know

trichloroisocyanuric acid 87-90-1

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 : 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), TSCA (USA)

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: First formulated version in SAP.

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. .