

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 TERMINATOR II**

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Supplier**  
**Quantum Biochemical**  
**1400 Bluegrass Lakes Parkway ,**  
**Alpharetta, GA, 30004**  
**USA**

**Telephone: +17705215999**  
**Telefax: +17705215959**  
**Web: www.poolspacare.com**

REVISION DATE:	05/26/2015
SUPERCEDES:	11/02/2010
MSDS Number:	000000024400
SYNONYMS:	
CHEMICAL FAMILY:	None
DESCRIPTION / USE	None established
FORMULA:	None established

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

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1

### GHS Label element

Hazard pictograms	:	The image shows two GHS hazard pictograms side-by-side. The first is a red diamond with a black border containing a black silhouette of a hand being corroded by a liquid dripping from a test tube. The second is a red diamond with a black border containing a black exclamation mark.
Signal word	:	Danger
Hazard statements	:	H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage.
Precautionary statements	:	<b>Prevention:</b> P260 Do not breathe vapours. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. <b>Response:</b> P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. P330 Rinse mouth. P362 + P364 Take off contaminated clothing and wash it before reuse. 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. P321 Specific treatment (see supplemental first aid instructions on this label). 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. <b>Storage:</b> P405 Store locked up. <b>Disposal:</b> 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>
QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKY	68424-85-1	20 - 30

Triethanolamine	102-71-6	5 - 10
Ethanolamine	141-43-5	4 - 8
BASIC COPPER CARBONATE	12069-69-1	4 - 8
Ethanol	64-17-5	2 - 4

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## 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.

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## SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA): Product is not known to be flammable, combustible, pyrophoric or explosive.

### Flammable Properties

Flash Point:	No data.
Autoignition Temperature:	No data
Fire / Explosion Hazards:	Material will not ignite or 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.
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
Lower Flammable / Explosive Limit, % in air:	No data

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## 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.
<u>Spill Mitigation Procedures</u>	
Air Release:	Keep people away from and upwind of spill/leak.
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:	Contain and/or absorb spill with inert material (e.g. sand, vermiculite). Do not use clay to absorb spill. Avoid release to the environment.
Additional Spill Information :	Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

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## 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."
Empty Container Warning:	Empty containers retain hazardous residue, dispose of accordingly.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Use local exhaust ventilation to maintain levels below exposure limits.  
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 air purifying respirator with organic vapor/N95 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. A NIOSH approved full-face respirator as a minimum.

Skin Protection : Avoid contact with skin. Impervious gloves Boots Apron A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye Protection: Chemical resistant goggles must be worn. Face-shield

Protective Clothing Type: Impervious, Neoprene, Butyl rubber

General Protective Measures: Ensure that eyewash stations and safety showers are close to the workstation location.

### Components with workplace control parameters

Components (CAS-No.)	Value	Control parameters	Basis (Update)
Triethanolamine (102-71-6)	TWA	5 mg/m <sup>3</sup>	ACGIH (02 2014)
Ethanolamine (141-43-5)	TWA	3 ppm	ACGIH (02 2014)
	STEL	6 ppm	ACGIH (02 2014)
BASIC COPPER CARBONATE (12069-69-1)	Conc	100 mg/m <sup>3</sup>	NIOSH/GUIDE (2005)
Ethanol (64-17-5)	STEL	1,000 ppm	ACGIH (02 2014)

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid  
 Form: No data.  
 Color: dark blue  
 Odor: No data.  
 Molecular Weight: None established  
 pH : 9.5 - 9.7  
 ()  
 Boiling Point: No Data

Melting point/freezing point: No data  
 Density: no data available

Vapor Pressure:	No data
Vapor Density:	> 1
Viscosity:	34.5 mPa.s 20 °C
Solubility in Water:	Soluble
Partition coefficient n-octanol/water:	Not applicable
Evaporation Rate:	no data available
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	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). 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

Stability and Reactivity Summary:	Stable under normal conditions., Product will not undergo hazardous polymerization.
Conditions to Avoid:	Heat
Chemical Incompatibility:	Strong acids and oxidizing agents, Clay
Hazardous Decomposition Products:	Hydrogen chloride gas, Carbon oxides, Nitrogen oxides (NOx)
Decomposition Temperature:	No data

## SECTION 11. TOXICOLOGICAL INFORMATION

### Component Animal Toxicology

#### Oral LD50 value:

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKY	LD50 = 426 mg/kg	Rat
Triethanolamine	LD50 = 7,390 mg/kg	Rat
Ethanolamine	LD50 = 1,700 mg/kg	Rat
BASIC COPPER CARBONATE	LD50 = 1,350 mg/kg	Rat
Ethanol	LD50 = 7,060 mg/kg	Rat

### Component Animal Toxicology

#### Dermal LD50 value:

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKY	No data	
Triethanolamine	LD50 > 2,000 mg/kg	Rabbit

Ethanolamine LD50 Approximately 1,000 mg/kg Rabbit  
 BASIC COPPER no data available  
 CARBONATE  
 Ethanol LD50 Believed to be > 2,000 mg/kg Rabbit

#### Component Animal Toxicology

##### Inhalation LC50 value:

QUATERNARY No data  
 AMMONIUM  
 COMPOUNDS,  
 BENZYL-C12-16-ALKY  
 Triethanolamine A saturated vapor concentration for 8 hours (rats) did not produce any deaths.

Ethanolamine LC50 1 h > 2.42 mg/l Mouse

LC50 4 h > 970 ppm Mouse

BASIC COPPER no data available  
 CARBONATE

Ethanol Inhalation LC50 10 h = 20000 ppm Rat

#### Product Animal Toxicity

Oral LD50 value: 1,030 mg/kg Rat

Dermal LD50 value: 1,872 mg/kg Rat

Inhalation LC50 No data.

##### value:

Skin Irritation: Corrosive to skin

Eye Irritation: Corrosive to eyes

Skin Sensitization: Not believed to be sensitising to skin.

Triethanolamine This material tested negative for skin sensitization in animals.

Ethanolamine This material tested negative for skin sensitization in animals.

Subchronic / Chronic Toxicity: There are no known or reported effects from repeated exposure except those secondary to burns.

Triethanolamine Animal studies suggest that chronic (repeated) overexposure may result in damage to the liver and kidney.

Ethanol Prolonged or repeated ingestion may cause liver damage.

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

Triethanolamine                      This product has been tested and was shown not to produce any adverse effects on reproductive function or fetal development when administered to laboratory animals.

Ethanolamine                              This chemical has been tested in laboratory animals and no evidence of teratogenicity, embryotoxicity or fetotoxicity was seen.

Ethanol                                      This chemical has been tested in laboratory animals and developmental and/or teratogenic effects were seen following ingestion.

Mutagenicity:                              Not known or reported to be mutagenic.

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

Ethanolamine                              This chemical has been tested in a battery of mutagenicity/genotoxicity assays and the results were negative.

Ethanol                                      This product has been tested for mutagenicity. Tests revealed both positive and negative results. Based on the weight of evidence, we judge this product NOT to be a mutagenic hazard.

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

Triethanolamine                              The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 3 substance, Unclassifiable as to Its Carcinogenicity to Humans.

Ethanolamine                              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.

Ethanol                                      The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 3 substance, Unclassifiable as to Its Carcinogenicity to Humans. The FDA determined that this product is not carcinogenic in laboratory animals.

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## SECTION 12. ECOLOGICAL INFORMATION

Overview:                                      Very toxic to aquatic organisms.

Ecological Toxicity Values for: QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKY

Pimephales promelas (fathead minnow) - 96 h LC50 0.28 mg/l



- Daphnia magna (Water flea) - 48 h EC50 0.25 mg/l  
 Selenastrum capricornutum (green algae) - 72 h ErC50 0.049 mg/l

Ecological Toxicity Values for: Triethanolamine

- Pimephales promelas (fathead minnow) - (measured, flow-through) 96 h LC50 = 11,800 mg/l  
 Daphnia magna, - (nominal, static). 24 h EC50= 1,850 mg/l  
 Common shrimp (Crangon crangon) - (nominal, renewal). 48 h LC50> 100 mg/l  
 Green algae (Scenedesmus subspicatus) - (nominal, static). 48 h EC50 = 750 mg/l

Ecological Toxicity Values for: Ethanolamine

- Rainbow trout (Oncorhynchus mykiss) - (nominal, static). 96 h LC50 = 150 mg/l  
 Mosquito fish - (nominal, static). 96 h LC50 = 337.5 mg/l  
 Bluegill - (nominal, static). 96 h LC50 = 329.16 mg/l  
 Pimephales promelas (fathead minnow) - (measured, flow-through) 96 h LC50 = 2,070 mg/l  
 Goldfish - (measured, static) 96 h LC50 = 170 mg/l  
 Daphnia magna (Water flea) - (nominal, static). 24 h LC50= 140 mg/l  
 Crangon crangon (shrimp) - (nominal, renewal). 48 h LC50> 100 mg/l  
 Brine shrimp - 48 h LC50= 7,100 mg/l  
 Daphnia magna (Water flea) - 48 h EC50= 65 mg/l

Ecological Toxicity Values for: Ethanol

- Pimephales promelas (fathead minnow) - (nominal, static). 96 h LC50 = 14,700 mg/l  
 Rainbow trout (Salmo gairdneri), - (nominal, static). 96 h LC50 = 13,000 mg/l  
 Brine shrimp - (nominal, static). 48 h LC50= 25.5 mg/l  
 Daphnia pulex - (nominal, static). 18 h LC50= 12,100 mg/l  
 Daphnia magna, - (nominal, static). 48 h EC50> 10,000 mg/l  
 Daphnia magna, - (nominal, static). 48 h LC50= 9,248 mg/l  
 Ceriodaphnia dubia - (nominal, static). 48 h LC50= 8,808 mg/l

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## 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

UN number : 1760  
 Description of the goods : Corrosive liquids, n.o.s.  
 : (Copper triethanolamine complex)  
 Class : 8  
 Packing group : III  
 Labels : 8  
 Emergency Response : 154  
 Guidebook Number

### TDG

UN number : 1760  
 Description of the goods : CORROSIVE LIQUID, N.O.S.  
 : (Copper triethanolamine complex)  
 Class : 8  
 Packing group : III  
 Labels : 8

### IATA

UN number : 1760  
 Description of the goods : Corrosive liquid, n.o.s.  
 : (Copper triethanolamine complex)  
 Class : 8  
 Packing group : III  
 Labels : 8  
 Packing instruction (cargo aircraft) : 856  
 Packing instruction (passenger aircraft) : 852  
 Packing instruction (passenger aircraft) : Y841

### IMDG-CODE

UN number : 1760  
 Description of the goods : CORROSIVE LIQUID, N.O.S.  
 (Copper triethanolamine complex)  
 Class : 8  
 Packing group : III  
 Labels : 8  
 EmS Number 1 : F-A  
 EmS Number 2 : S-B

## 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.  
 Corrosive. Causes skin burns.  
 Corrosive. Causes irreversible eye damage.  
 This pesticide is toxic to fish.  
 This pesticide is toxic to aquatic invertebrates.

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

#### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
2,2'-Iminodiethanol	111-42-2	100	

#### 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 carbonate 12069-69-1 5.64 %

#### 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 SOCMl 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:

Formaldehyde	50-00-0	0.002 %
Sodium hydroxide	1310-73-2	0.0001 %

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

Formaldehyde	50-00-0	0.002 %
Sodium hydroxide	1310-73-2	0.0001 %

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

copper carbonate	12069-69-1	5.64 %
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### US State Regulations

#### Massachusetts Right To Know

2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5
Ethanol	64-17-5

#### Pennsylvania Right To Know

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1
2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5
copper carbonate	12069-69-1
Ethanol	64-17-5

#### New Jersey Right To Know

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1
2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5
copper carbonate	12069-69-1
Ethanol	64-17-5

### California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

2,2'-Iminodiethanol	111-42-2
Formaldehyde	50-00-0

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

TSCA : This is an EPA registered pesticide.  
: silica, amorphous, precipitated  
: Carbopol 941

**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: 3  
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. .