

ESTTA Tracking number: **ESTTA539130**

Filing date: **05/21/2013**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

**Petition for Cancellation**

Notice is hereby given that the following parties request to cancel indicated registration.

**Petitioner Information**

Name	Purifics ES, Inc.		
Entity	Corporation	Citizenship	Ontario, Canada
Address	340 Sovereign Road London, ONT N6M1AB CANADA		

Name	1047406 Ontario Ltd.		
Entity	Corporation	Citizenship	Ontario, Canada
Address	340 Sovereign Road London, ONT N6M1AB CANADA		

Attorney information	Lisa H. Meyerhoff Baker & McKenzie LLP 700 Louisiana, Suite 3000 Houston, TX 77002 UNITED STATES HouUSPTO@bakermckenzie.com Phone:713-427-5005		
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**Registration Subject to Cancellation**

Registration No	4217809	Registration date	10/02/2012
Registrant	UVCleaning Systems, Inc. 15250 NW Greenbrier Parkway Beaverton, OR 97006 UNITED STATES		

**Goods/Services Subject to Cancellation**

Class 011. First Use: 2011/06/30 First Use In Commerce: 2011/06/30 All goods and services in the class are cancelled, namely: Portable sunlight activated water purification units
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**Grounds for Cancellation**

Priority and likelihood of confusion	Trademark Act section 2(d)
Related Proceedings	Opposition No. 91,194,706

**Mark Cited by Petitioner as Basis for Cancellation**

U.S. Registration	2062935	Application Date	03/21/1996
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No.			
Registration Date	05/20/1997	Foreign Priority Date	NONE
Word Mark	PURIFICS		
Design Mark			
Description of Mark	NONE		
Goods/Services	Class 040. First use: First Use: 1993/12/00 First Use In Commerce: 1993/12/00 environmental remediation services, namely, soil, waste and water treatment services and air purification services		

Attachments	2013-05-21 Petition for Cancellation.pdf(21580 bytes ) 2013-05-21 Petition for Cancellation - Ex. A - TM database.pdf(1161881 bytes ) 2013-05-21 Petition for Cancellation - Ex. B - Purifics website pages.pdf(3585158 bytes )
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### Certificate of Service

The undersigned hereby certifies that a copy of this paper has been served upon all parties, at their address record by First Class Mail on this date.

Signature	/Lisa H. Meyerhoff/
Name	Lisa H. Meyerhoff
Date	05/21/2013

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

1047406 Ontario Ltd. and )  
Purifics ES, Inc., )  
 )  
Petitioners ) Cancellation No. \_\_\_\_\_  
 )  
v. )  
 )  
UVCleaning Systems, Inc., d/b/a Puralytics )  
Corporation, )  
 )  
Registrant. )

**PETITION FOR CANCELLATION**

Petitioners 1047406 Ontario Ltd. ("Ontario Ltd."), an Ontario corporation located and doing business at 340 Sovereign Road, London, Ontario N6M1AB, Canada, and its wholly-owned subsidiary, Purifics ES, Inc. ("Purifics"), an Ontario corporation located and doing business at 340 Sovereign Road, London, Ontario N6M1AB, Canada (collectively, "Petitioners"), believe they are being damaged by U.S. Registration No. 4,217,809 owned by Registrant UVCleaning Systems, Inc. d/b/a Puralytics Corporation ("Registrant"), and hereby petition to cancel same.

The grounds for cancellation are as follows:

1. Ontario Ltd. owns U.S. Registration No. 2,062,935 for the mark "PURIFICS" for "environmental remediation services, namely, soil, waste and water treatment services and air purification services," issued by the United States Trademark Office on May 20, 1997. Purifics is a wholly-owned subsidiary and licensee of Ontario Ltd., and has the right to use this mark with the services recited in the registration. Petitioners' "PURIFICS" registration is incontestable under Section 15 of the Trademark Act, 15 U.S.C. §§ 1065, 1115(b). A current printout of

information from the electronic database records of the United States Trademark Office showing the current status and ownership of the registration is attached as Exhibit A.

2. Petitioners are engaged in the manufacture and sale of environmental remediation goods and services in the fields of soil, waste, and water treatment and air purification.

3. Beginning at least as early as December 1993, Petitioners began using the mark "PURIFICS" for the goods and services described above, including wastewater purification units, water purification and filtration apparatus, and water purification units. Printouts of Petitioners' website showing their use of the "PURIFICS" mark with the identified goods and services are attached as Exhibit B.

4. Petitioners have continuously and extensively used the "PURIFICS" mark in interstate commerce with the identified goods and services since at least December 1993, and have and are offering for sale and selling their water purification goods and services under the "PURIFICS" mark throughout the United States. Purifics' use of the "PURIFICS" mark with water purification goods and services inures to Ontario Ltd.'s benefit.

5. Petitioners have spent significant sums advertising and promoting their water purification goods and services under their "PURIFICS" mark in interstate commerce in the remediation, industrial, and municipal industries throughout the United States.

6. Registrant UVCleaning Systems, Inc. is a corporation with its principal place of business located at 15250 NW Greenbrier Pkwy, Beaverton, Oregon 97006. Registrant is a newcomer to the water purification industry, with alleged commercial use of the "PURALYTICS" mark with water purification goods beginning only in 2009.

7. In October 2009, Registrant filed an intent-to-use application for the mark "PURALYTICS" for "waste water purification units; water purification and filtration apparatus; water purification units" in International Class 11 (U.S. Application Serial No. 77/861,438).

This application was published for opposition on April 6, 2010, and Petitioners promptly filed their Notice of Opposition on April 30, 2010 (Opposition No. 91,194,706).

8. From 2010 to Spring 2013, the parties conducted significant written discovery and took numerous depositions. As early as 2010, Petitioners served specific discovery on Registrant in Opposition No. 91,194,706 seeking the identification of all of Registrant's trademark applications and registrations in the water purification industry. Registrant never provided the requested information or documents. To date, Registrant has never supplemented its responses to Petitioners' written discovery or otherwise disclosed the existence of any trademark applications or registrations, including the registration made the subject of this cancellation proceeding.

9. Further, on March 1, 2012 (while Opposition No. 91,194,706 was proceeding against Registrant's "PURALYTICS" application for water purification goods and unbeknownst to Petitioners), Registrant filed an application to register the identical mark "PURALYTICS." This time, Registrant sought to register the mark for a water purification device: "portable sunlight activated water purification units" ("portable water purification units") in International Class 11. On October 2, 2012, the U.S. Trademark Office issued Certificate of Registration No. 4,217,809 to Registrant for "PURALYTICS" for the portable water purification units.

10. Registrant's use of, and application to register, the "PURALYTICS" mark for water purification goods were and are without Petitioners' consent, and are the subject of the related Opposition No. 91,194,706. Similarly, Registrant's use of, and registration for, "PURALYTICS" with portable water purification units are without Petitioners' consent, and the subject of this cancellation proceeding.

11. Petitioners offer and provide water purification goods and services under their "PURIFICS" mark using a photocatalytic process. On information and belief, Registrant offers

and provides water purification goods under the "PURALYTICS" mark using a similar photocatalytic process.

12. Registrant offers for sale and sells water purification goods under the "PURALYTICS" mark that are similar to water purification goods that Petitioners offer for sale and sell under their "PURIFICS" mark. Registrant also offers for sale and sells water purification goods under the "PURALYTICS" mark that are directly related to the services that Petitioners offer for sale and sell under their "PURIFICS" mark and for which Petitioners registered their "PURIFICS" mark.

13. Registrant's use of the "PURALYTICS" mark with water purification goods is likely to result in consumers' confusion, mistake, or deception regarding Petitioners' "PURIFICS mark" for water purification goods and services, or in consumers' belief that Registrant or Registrant's goods are in some way connected with, licensed or approved by, Petitioners, in violation of Section 2(d) of the Trademark Act, 15 U.S.C. § 1052(d).

14. Registrant's mark is confusingly similar to Petitioners' mark. Further, Registrant's water purification goods are similar to Petitioners' water purification goods and services. Registrant targets a class of customers similar to the class of customers that Petitioners target. Specifically, Registrant and Petitioners market their goods and services to purchasers of water purification goods and services.

15. Registrant's mark so resembles Petitioners' mark, when used in connection with the goods identified in Registrant's Registration, as to be likely to cause confusion, mistake, or deception within the meaning of Section 2(d) of the Trademark Act.

16. Registrant's continued use of the "PURALYTICS" mark with water purification goods is likely to cause confusion in the marketplace, resulting in damage and injury to Petitioners due to the similarity between Registrant's mark and Petitioners' mark and the

similarity of the goods offered under the Registrant's and Petitioners' marks. Consumers would likely believe that Registrant's water purification goods originate from or are associated with Petitioners, thereby enabling Registrant to misappropriate and unfairly trade upon Petitioners' valuable goodwill and reputation in Petitioners' mark.

17. Further, any defect, objection or fault found with water purification goods marketed under Registrant's mark would necessarily reflect upon and injure the reputation that Petitioners have established for their high-quality water purification goods and services marketed and provided under Petitioners' "PURIFICS" mark.

18. For the arguments set forth above and as urged in Opposition No. 91,194,706, Petitioners pray that the Board sustain this Petition and cancel U.S. Trademark Registration No. 4,217,809 pursuant to 15 U.S.C. § 1064 (Section 14 of the Lanham Act).

WHEREFORE, Petitioners respectfully request that the Board sustain Petitioners' Petition for Cancellation and cancel U.S. Trademark Registration No. 4,217,809.

Dated: May 21, 2013

Respectfully submitted,

/s/Lisa H. Meyerhoff

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ATTORNEYS FOR PETITIONERS  
1047406 ONTARIO LTD. AND  
PURIFICS ES, INC.

**CERTIFICATE OF SERVICE**

I hereby certify that on May 21, 2013 a copy of the attached "Petitioners' Petition for Cancellation" was served via email and U.S. Mail, First Class, postage prepaid, on Registrant's counsel of record as follows:

Salumeh R. Loesch  
Email: [salumeh.loesch@klarquist.com](mailto:salumeh.loesch@klarquist.com)  
Klarquist Sparkman, LLP  
One World Trade Center, Suite 1600  
121 SW Salmon Street  
Portland, Oregon 97204

\_\_\_\_\_  
/s/ Lisa H. Meyerhoff



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### Typed Drawing

<b>Word Mark</b>	PURIFICS
<b>Goods and Services</b>	IC 040. US 100 103 106. G & S: environmental remediation services, namely, soil, waste and water treatment services and air purification services. FIRST USE: 19931200. FIRST USE IN COMMERCE: 19931200
<b>Mark Drawing Code</b>	(1) TYPED DRAWING
<b>Serial Number</b>	75076222
<b>Filing Date</b>	March 21, 1996
<b>Current Basis</b>	1A
<b>Original Filing Basis</b>	1A
<b>Published for Opposition</b>	February 25, 1997
<b>Registration Number</b>	<b>2062935</b>
<b>Registration Date</b>	May 20, 1997
<b>Owner</b>	(REGISTRANT) Purifics Environmental Technologies, Inc. CORPORATION CANADA 340 Sovereign Road London, Ontario, N6M1A8 CANADA  (LAST LISTED OWNER) 1047406 ONTARIO LTD. CORPORATION CANADA 340 SOVEREIGN ROAD LONDON, ONTARIO CANADA N6M1AB
<b>Assignment Recorded</b>	ASSIGNMENT RECORDED
<b>Attorney of Record</b>	Nicole B. Emmons
<b>Type of Mark</b>	SERVICE MARK
<b>Register</b>	PRINCIPAL
<b>Affidavit Text</b>	SECT 15. SECT 8 (6-YR). SECTION 8(10-YR) 20070611.
<b>Renewal</b>	1ST RENEWAL 20070611
<b>Live/Dead Indicator</b>	LIVE

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**Mark:** PURIFICS No Image exists for this case.

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<b>US Serial Number:</b> 75076222	<b>Application Filing Date:</b> Mar. 21, 1996
<b>US Registration Number:</b> 2062935	<b>Registration Date:</b> May 20, 1997

**Register:** Principal

**Mark Type:** Service Mark

**Status:** The registration has been renewed.

**Status Date:** Jun. 11, 2007

**Publication Date:** Feb. 25, 1997

▼ **Mark Information**

▲ Collapse All

**Mark Literal Elements:** PURIFICS

**Standard Character Claim:** No

**Mark Drawing Type:** 1 - TYPESET WORD(S) /LETTER(S) /NUMBER(S)

▼ **Goods and Services**

**Note:**  
 The following symbols indicate that the registrant/owner has amended the goods/services:

- Brackets [...] indicate deleted goods/services;
- Double parenthesis ((...)) identify any goods/services not claimed in a Section 15 affidavit of
- Asterisks \*...\* identify additional (new) wording in the goods/services.

**For:** environmental remediation services, namely, soil, waste and water treatment services and air purification services

<b>International Class(es):</b> 040 - Primary Class	<b>U.S Class(es):</b> 100, 103, 106
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**Class Status:** ACTIVE

**Basis:** 1(a)

<b>First Use:</b> Dec. 1993	<b>Use in Commerce:</b> Dec. 1993
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▼ **Basis Information (Case Level)**

<b>Filed Use:</b> Yes	<b>Currently Use:</b> Yes	<b>Amended Use:</b> No
<b>Filed ITU:</b> No	<b>Currently ITU:</b> No	<b>Amended ITU:</b> No
<b>Filed 44D:</b> No	<b>Currently 44D:</b> No	<b>Amended 44D:</b> No
<b>Filed 44E:</b> No	<b>Currently 44E:</b> No	<b>Amended 44E:</b> No
<b>Filed 66A:</b> No	<b>Currently 66A:</b> No	
<b>Filed No Basis:</b> No	<b>Currently No Basis:</b> No	

▼ **Current Owner(s) Information**

<b>Owner Name:</b>	1047406 ONTARIO LTD.		
<b>Owner Address:</b>	340 SOVEREIGN ROAD LONDON, ONTARIO N6M1AB CANADA		
<b>Legal Entity Type:</b>	CORPORATION	<b>State or Country Where Organized:</b>	CANADA

▼ **Attorney/Correspondence Information**

**Attorney of Record**

<b>Attorney Name:</b>	Nicole B. Emmons		
<b>Attorney Primary Email Address:</b>	<a href="mailto:nicole.emmons@bakermckenzie.com">nicole.emmons@bakermckenzie.com</a>	<b>Attorney Email Authorized:</b>	Yes

**Correspondent**

<b>Correspondent Name/Address:</b>	Nicole B. Emmons Baker & McKenzie LLP 2001 Ross Ave., Suite 2300 Dallas, TEXAS 75201 UNITED STATES		
<b>Correspondent e-mail:</b>	<a href="mailto:nicole.emmons@bakermckenzie.com">nicole.emmons@bakermckenzie.com</a>	<b>Correspondent e-mail Authorized:</b>	Yes

**Domestic Representative - Not Found**

▼ **Prosecution History**

Date	Description	Proceeding Number
Oct. 25, 2012	ATTORNEY REVOKED AND/OR APPOINTED	
Oct. 25, 2012	TEAS REVOKE/APPOINT ATTORNEY RECEIVED	
Mar. 04, 2009	AUTOMATIC UPDATE OF ASSIGNMENT OF OWNERSHIP	
Jun. 11, 2007	REGISTERED AND RENEWED (FIRST RENEWAL - 10 YRS)	76293
Jun. 11, 2007	REGISTERED - SEC. 8 (10-YR) ACCEPTED/SEC. 9 GRANTED	
Jun. 11, 2007	ASSIGNED TO PARALEGAL	76293
May 17, 2007	REGISTERED - COMBINED SECTION 8 (10-YR) & SEC. 9 FILED	
May 17, 2007	TEAS SECTION 8 & 9 RECEIVED	
Dec. 11, 2006	CASE FILE IN TICRS	
Aug. 16, 2002	REGISTERED - SEC. 8 (6-YR) ACCEPTED & SEC. 15 ACK.	
Jul. 05, 2002	REGISTERED - SEC. 8 (6-YR) & SEC. 15 FILED	
Jul. 05, 2002	PAPER RECEIVED	
May 20, 1997	REGISTERED-PRINCIPAL REGISTER	
Feb. 25, 1997	PUBLISHED FOR OPPOSITION	
Jan. 24, 1997	NOTICE OF PUBLICATION	
Aug. 01, 1996	APPROVED FOR PUB - PRINCIPAL REGISTER	

Jul. 31, 1996	EXAMINER'S AMENDMENT MAILED	
Jul. 30, 1996	ASSIGNED TO EXAMINER	68365
Jul. 26, 1996	ASSIGNED TO EXAMINER	70425
Jun. 25, 1996	CORRESPONDENCE RECEIVED IN LAW OFFICE	

**▼ Maintenance Filings or Post Registration Information**

**Affidavit of Continued Use:** Section 8 - Accepted

**Affidavit of Incontestability:** Section 15 - Accepted

**Renewal Date:** May 20, 2007

**▼ TM Staff and Location Information**

**TM Staff Information - None**

**File Location**

**Current Location:** POST REGISTRATION

**Date in Location:** Jun. 11, 2007

**▼ Assignment Abstract Of Title Information**

**Summary**

**▼ Conveyance Filter**

**Total Assignments:** 1

**Registrant:** Purifics Environmental Technologies, Inc.

**▲ Assignment 1 of 1**

**▼ Expand All**

**▬ Proceedings**

# Purifics Automated Water Purification Since 1993

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## Mission

Purify, Condition & Control Water with Unique Economic & Environmental Advantage

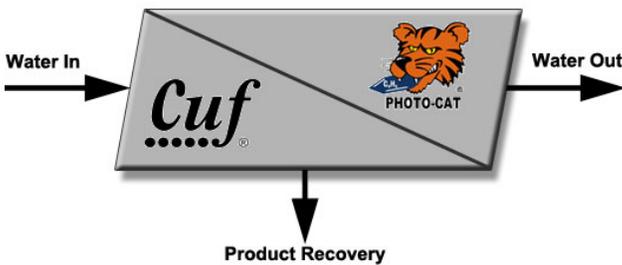
## Vision

Water Purification that is Sustainable, Chemical & Waste Free, with Low Lifecycle Cost.

## Purification Capability

Chemicals, Oil, Metals, Biological Contaminants & MORE  
Reduced Complexity, Chemical Free Oxidation, etc...

## Water Purification Platform



## Market Applications

- |   |   |   |  |
|---|---|---|--|
| <u>Municipal</u><br><u>Drinking Water</u><br><u>Waste Water</u><br><u>Water Reuse</u> | <u>Industrial</u><br><u>Remediation</u><br><u>Oil &amp; Gas</u><br><u>Process</u> | <u>Government</u><br><u>Superfund</u><br><u>DoD/DoE</u><br><u>International</u> | <u>Institutional</u><br><u>R &amp; D</u><br><u>Collaboration</u><br><u>Education</u> |
|---|---|---|--|



## Purifics ES Profile

Purifics is a licensed engineering firm and a knowledge based business. Since 1993, the company has been providing unique engineered systems, solutions and products for remedial, industrial and municipal sectors. Our 18,000 sq. foot facility features modern offices, design, production, laboratory and automation departments.

Our proprietary know how, experience and technologies enable Purifics to design, manufacture and deploy water purification solutions that support sustainable development. We focus on low life cycle cost, reducing complexity and minimizing risk. Our product pedigree was initiated by solving difficult high purity water challenges for the nuclear industry; a business practice that continues to this day. Purifics spends 15% of annual revenue on R&D.

## ANNOUNCEMENTS

[CleanTech Award Winner - Excellence in Filtration Technology from Hazmat Management Magazine](#)

[Groundwater Clean Up Award - Los Angeles Superfund Site](#)

[Product Update](#)  
**Cuf** - Ceramic UF

## PENDING EVENTS

Purifics presents **Cuf** Technology in Drinking Water at 7th IWA Membrane Technology Conference & Exhibition August 25-29, 2013 Toronto, ON

28th WaterReuse Symposium September 15-18, 2013 Denver, CO

Industrial Reuse Specialty Conference December 9-10, 2013 Long Beach, CA



Purifics' solutions are configured to meet the needs of virtually any fluid purification, conditioning and control challenge. Our Application Engineering is supported with [In-House](#) and [On-Site](#) verification systems.

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# Purifics Automated Water Purification

Since 1993

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CUF - Ceramic Ultra-Filtration

Photo-Cat AOP+ - Advanced Oxidation Process

CFFeR - Chem Free Iron Removal

DeWRS - DeWatering Recovery System

ISR - Inline Solvent Recovery

RO - Reverse Osmosis

## Technology Tool Box - No Process Chemicals

### **Cuf** - Ceramic Ultra-Filtration

- [NO Backwash: NO Backpulse](#)
  - [NO Membrane Replacement](#)
  - [NO Process Chemicals](#)
  - [Self Cleaning](#)
  - [Continuous Direct Integrity Testing](#)
- [Learn more>>](#)



### PHOTOCAT - Chemical Free AOP+

- [Chemical Free Advanced Oxidation Process](#)
  - [Destroys, inactivates, or mineralizes chemicals, biologicals, and TOC in water](#)
  - [No generated waste](#)
  - [20 years operating experience with installations worldwide](#)
  - [Can remove metals](#)
- [Learn more >>](#)

### CFFeR - Chemical Free Metals Removal

- [Metals removal from water without chemicals](#)
  - [Technology involves the efficient addition of air to increase the dissolved oxygen sufficiently to oxidize dissolved metals into insoluble metal oxides](#)
  - [99.99% removal efficiency, complexity reduction](#)
- [Learn more>>](#)

### DeWRS - DeWatering Recovery System

- [NO Chemicals](#)
  - [Replaces Filter Presses & Centrifuges](#)
- [Learn more>>](#)

### ISR - Inline Solvent Recovery

- [Automated, solid-state device installed in a waterline to separate both light \(L\) and/or dense \(D\) non-aqueous phase liquids \(NAPL\) from water](#)
  - [Removes free, mechanically and chemically emulsified NAPLs](#)
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RO - Reverse Osmosis





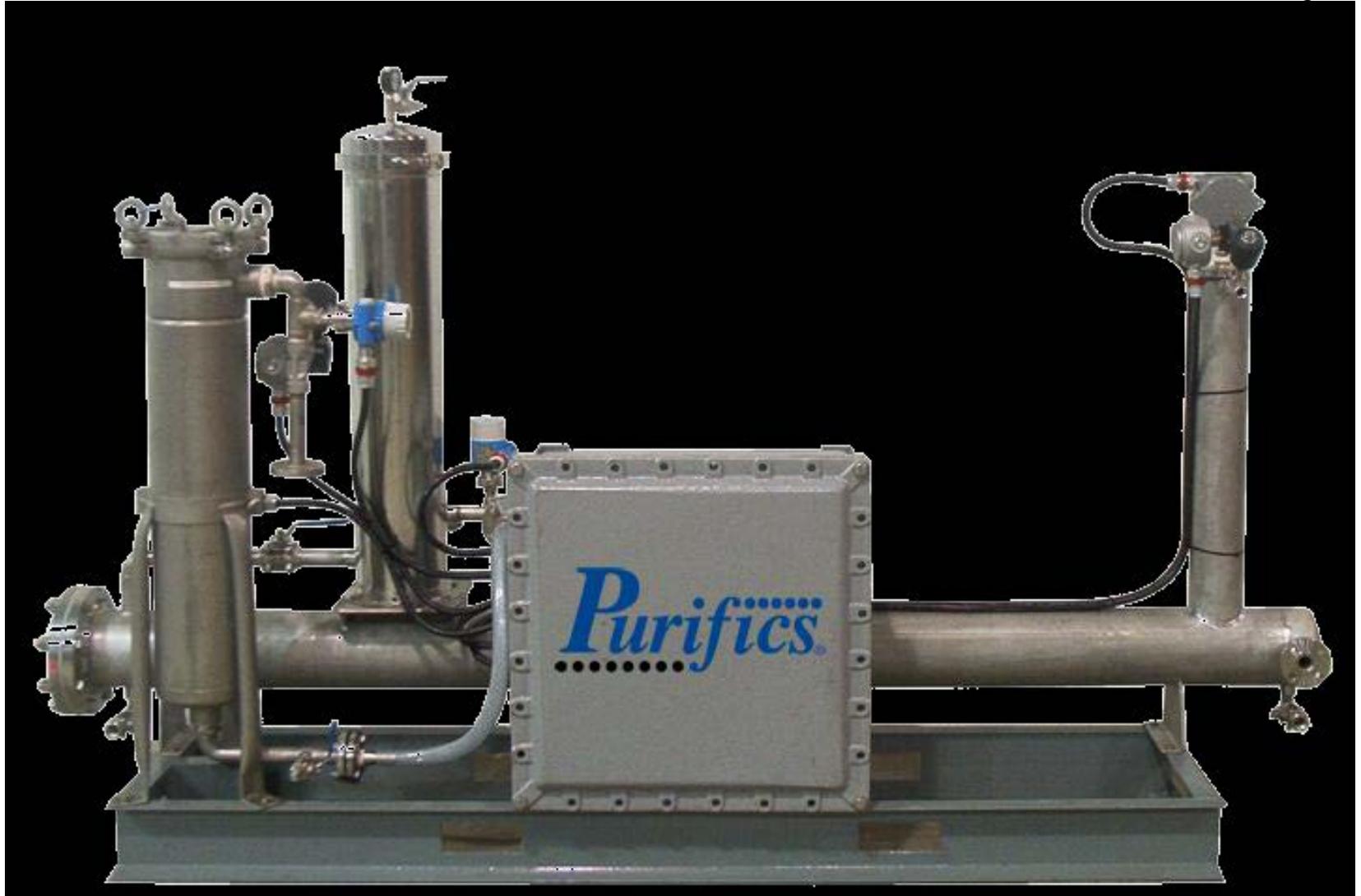














# Photo-Cat Water Purification

## Advanced, Chemical-Free, Triple Barrier Process:

Photo-Cat is a photocatalytic, ceramic membrane process that combines the best of “chemical-free” advanced oxidation (AOP+) & ceramic ultrafiltration since 1993. Benefits of an AOP+ process include a 20% increase in oxidizing potential, metals removal, biological destruction/filtration and a significant advantage in efficiency, cost and complexity reduction. Photo-Cat destroys organic contaminants in water through a TiO<sub>2</sub> slurry-based photocatalytic process to purify or detoxify the fluid stream of concern. It is a unique chemical-free process that removes chemical contaminants, biologicals, NDMA, viruses, oocysts, bromate, EDCs, PPCPs, sub-micron particulate and metals such as manganese, mercury, iron and Cr6. The process is fully automated, sealed, generates no waste stream, and is fully backed by our World Wide Support Program. Photo-Cat is not OH<sup>-</sup> radical limited, or temperature / UVT dependent.

Photo-Cat lifecycle costs are significantly less than conventional technologies such as activated carbon, UV ozone, UV peroxide, chemical oxidation, air stripping with off-gas treatment, and reverse osmosis, making Photo-Cat the economical choice for multi-year projects with complex water challenges.

This highly automated process can treat water to very high standards that significantly exceed drinking water standards. Photo-Cat is essentially a solid state, automated device that operates unattended, with lamp life and service intervals exceeding 20,000 hours.

## Applications: Municipal, Industrial, Oil Fields:

- Drinking Water
- Groundwater Remediation
- Disinfection & Sterilization
- Zero Discharge
- Industrial Process Wastewater
- High Purity Water
- Bilge & Ballast Water
- Cleaning Fluid
- RO Feed
- Reuse
- Recharge
- Closed Loop



### Platforms

- Multi-MGD**  

- QDL**  

- DDL**  

- DL**  

- L**  


**Features & Benefits**

Efficient	Low lifecycle cost - 1/4 the O&M of other AOPs Lamp life - >20,000 hrs between service periods Quick lamp changes - 1 min. w/flooded system No catalyst loss - continuously recovers catalyst Continuous 24/7 duty	Automated	Unattended operation SCADA/PLC programmed operation Digital service and training manual online Remote monitoring, control, and data logging Automatic fault detection and recovery <b>Smart Access, Service &amp; Sensors</b>
Ability to Treat	Insensitive to dissolved solids and opaque fluids Not inhibited by turbidity, UVT or pH levels Not affected by pressure, temperature, alkalinity No fouling - operates with water containing iron Advanced coalescor technology	Serviceability	Generic parts, easy service availability No quartz tube wipers or quartz tube service Service can be performed by end-users' staff and trades
Simplicity	No wipers; No membrane cleaning	Turn Down	0% to 100% turn down
Manufacturing Excellence	Corrosion resistant High grade stainless steel construction NEMA 4 rating Plug & Play installations Highly reliable using highly developed standard, off the shelf components	Design Benefits	Created for sustainable development 25 year life expectancy Modular design customized to client requirements No pre-treatment required for removal of metals, dissolved solids or turbidity
Small Footprint	Starting at 3.6m L x 1.02m W x 1.98m H (11'10" L x 3'4" W x 6'6" H) Palletized for convenience	High Compliance Factor	Established compliance history of regulated discharge since 1994
Community Acceptance	Extremely low noise No off-gas No waste generated	Permitted Installations	History of efficient permitting by regulators such as the EPA and MOE for surface water discharge
Chemical Free	Operated without H <sub>2</sub> O <sub>2</sub> and ozone		

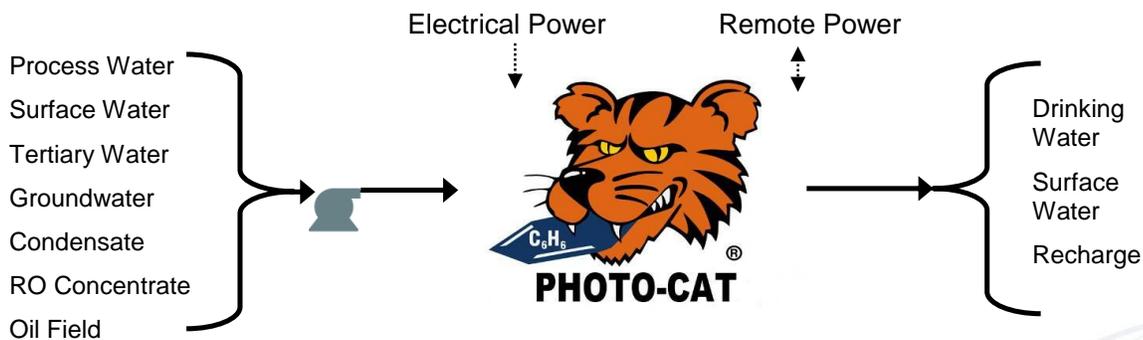


Photo-Cat is a photocatalytic membrane process that destroys organic pollutants when they are mixed with the titanium dioxide slurry, and activated by full spectrum UV light.

A key element of Purifics photocatalytic process is the patented continuous TiO<sub>2</sub> separation process which allows the catalyst to be completely recaptured and reintroduced into the inlet stream.

**World Wide Support**

Provides our customers with responsive technical assistance, after-sale support, and spares.



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Ph: 519-473 5788, info@Purifics.com, www.Purifics.com

Purifics products are protected by a number of US Patents. Other domestic and foreign patents are pending. Purifics, Photo-Cat and AOP+ are registered trademarks.

DOC3006R3

## Purify Water of:

Chemicals, Metals, Turbidity, Bacteria, Viruses, Oil, Particulate, TOC, BOD, COD, DOC, Color, Taste, Odor, Hardness, TDS, EDCs, PPCPs, TSS, TTHM & HAA Precursors

## Contaminants

- Metals:** Cr<sup>6</sup>, Fe, Hg, Pb, Mn, As, Tc<sup>99</sup>, Sb, Ba, Be, Cd, Co, Cu, Ni, Se, Th, Au, Ag, Pt, V, Zn, Al, U
- Bacteria:** Cryptosporidium, E-coli, Giardia, Bacteriophage, Spores, etc. >5 Log removal (Essentially complete removal, kill & consumed)
- Viruses:** Adenoviruses, MS2, etc. >7 Log removal (Essentially complete removal, kill & consumed)
- Oil/NAPL:** Heavy, Light, Oil/Sand, LNAPL, DNAPL, mechanical & chemical emulsions, diesel, gasoline Recovered as Neat product
- Particulate:** Absolute ceramic membrane filtration of particulate in the range of 0.1 → 0.01 nm
- NORMs:** Radium 226, Radium 228, Gross Alpha, Gross Beta

## Chemical Families:

Alcohols	Amines	Chlorinated Aromatics	Herbicides/Pesticides
Aldehydes	Aromatics	Chemical Warfare Agents	Ketones
Alkanes	BTEX	Dioxins/Furans	Nitro-Organics
Alkenes	Carboxylic Acids	Energetics	PAHs
Alkynes	Chlorinated Alkanes	Ethers	Phenols
Aliphatics	Chlorinated Aliphatics	Explosives	TTHM & HAA Precursors
Amides			

## Specific Chemicals

**1,4-Dioxane**, MTBE/BTEX, PAHs, PCBs, TCE/PCE, Dioxins/Furans, Acetone, Aniline, Anthracene, Aroclors, Benzene, Benzothiazole, Bis (2-chloroethyl) ether, Bis (2-ethylhexyl phthalate) ether, 2-Butanone, Carboxin, Chloroaniline, Chlorobenzene, Chloroethane, Chloroform, Chlorophenol, Cresols, Cyanides, Di-N-butyl phthalate, Diacetaldehyde, Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane, Dichloroethylene, 2,4-Dimethylphenol, 2,6-Dinitrotoluene, 2,4-Dinitrotoluene, 1,3-Dinitrobenzene, Diphenylhydrazine, Dioxane, DMN, Energetics, Ethanol, Ethylbenzene, Formaldehyde, Freon 11, Freon 113, Glycols, Glycerol Trinitrate, HMX, Hydrolysates, IPA, MEK, Mercaptan, 2-Mercaptobenzothiazole, Methanol, 1-Methylnaphthalene, 1-Methyl-2-Pyrrolidone, Methylene Chloride, methylphenol, MIBK, Monoacetaldehyde, Monethanolamine (MEA), Naphthalene, **NDMA**, Nitroaniline, Nitrobenzene, Nitroglycerine, PCBs, Phenols, RDX, Styrene, Tetrahydrofuran (THF), Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2,4,6-Trinitrotoluene (TNT), 1,3,5-Trinitrobenzene (TNB), Trichlorofluoromethane, Vinyl Chloride and Xylenes etc., etc...

## Specific Contaminants of Concern

Purifics processes do not generate H<sub>2</sub>O<sub>2</sub> residual, Bromate, NDMA and will destroy these contaminants if present.

## Operating Range:

<b>Fluid Temperature:</b>	0-100°C (Higher Rating Available)
<b>Pressure:</b>	0-150psi (Higher Rating Available)
<b>Flow Rate:</b>	0- Multi MGD (0-Multi ML/day)
<b>Turndown:</b>	0 $\leftrightarrow$ 100%
<b>Turbidity:</b>	All levels
<b>UVT:</b>	0-100%
<b>pH:</b>	0.1 – 13.9

## Purification Levels:

<b>Organic:</b>	6 Log Removal
<b>Metals:</b>	<1 ppb
<b>Pathogens:</b>	7 Log Removal
<b>Oil:</b>	<1 ppm
<b>TSS:</b>	ND

## Integrated Solutions

The collage features a central circular diagram with three segments: 'Environmental Systems' (Fluid Purification), 'Energy Systems' (Heat & Energy Management), and 'Expert Systems' (Instrumentation Controls & Supervision). The diagram is surrounded by numerous photographs of industrial equipment, including large storage tanks, piping networks, control rooms, and outdoor units, illustrating the company's diverse capabilities in providing integrated solutions.



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