

Purifics has developed comprehensive Chemical Free Water Purification Processes. These unique technology innovations combine the best of Fifth Generation Ceramic Ultra-Filtration Technology (**Cuf**), Chemical Free AOP+ (**Photo-Cat**), and DeWatering Recovery System (**DeWRS**) (Zero Liquid Discharge) with Complete Process Automation. **Cuf** is a durable and robust SiC hydrophilic membrane process that filters contaminants, reduces complexity and chemicals, and eliminates membrane replacement and costs. **Photo-Cat** is the only photocatalytic AOP+ that destroys chemicals, without adding chemicals. **DeWRS** achieves zero liquid discharge and recovers product in a thick concentrate for mineral reuse or direct to landfill.

Purifics systems purify water by removing: Chemicals, Metals, Turbidity, Bacteria, Viruses, Oil, Particulate, TOC, BOD, COD, DOC, Color, Taste, Odor, Hardness, EDCs, PPCPs, TSS, TTHM & HAA Precursors, PFOS/PFOA, H₂S, green algae & Silica. See reverse for details.



Purification Technologies:

Cuf Continuous Ultra Filtration -- **Cuf** is a unique ceramic membrane technology that has been refined over 20 years of industrial and municipal applications. Significant refinements in both process and 5th generation ceramic membrane design have advanced the technology substantially to the point where it renders other UF technologies obsolete. **Cuf** features substantially smaller footprint, reduced OPEX and CAPEX, and reduced complexity over other traditional UF systems.

Purifics products are protected by US & Foreign Patents and patents pending. Purifics, Photo-Cat, **Cuf**, and AOP+ are registered trademarks.





Photocatalytic Advanced Oxidation Process (AOP+) -- **Photo-Cat** is a chemical free, photocatalytic membrane system that destroys organic contaminants in water with no waste. **Photo-Cat** is used in both industrial and municipal markets. **Photo-Cat** is unique in that it has the strongest oxidation potential of all AOPs, and it has a unique reductive capability, making **Photo-Cat** an AOP+.

DeWRS DeWatering Recovery System -- **DeWRS** is a zero liquid discharge (ZLD) ceramic system which concentrates the sludge into solids. **DeWRS** eliminates the need to dispose of wastewater.

Contaminants Removed by FDR:

Metals: Ag, Al, As, Au, Ba, Be, Cd, Co, Cr⁶, Cu, Fe, Hg, Mn, Ni, P, Pb, Pt, Se, Sn, Tc⁹⁹, Th, U, V, Zn

Pathogens: Cryptosporidium, E-coli, Giardia, Bacteriophage, Spores, Cyanobacteria, etc. >5 Log removal (Remove, or kill, or consume)

Viruses: Adenoviruses, MS2, etc. >7 Log removal (Remove, or kill, or consume)

Oil/NAPL: Heavy, Light, Oil/Sand, LNAPL, DNAPL, mechanical & chemical emulsions, diesel, gasoline Recovered as Neat product

Particulate: Absolute particulate removal by filtration, agglomeration, oxidation, reduction, etc.

NORMs: Radium 226, Radium 228, Gross Alpha, Gross Beta

TDS: Hardness (Ca & Mg)

Chemicals:	Alcohols	Amines	Chemical Warfare Agents	Nitro-Organics
	Aldehydes	Aromatics	Dioxins/Furans	PAHs
	Alkanes	BTEX	Energetics	PFOs & PFOA
	Alkenes	Carboxylic Acids	Ethers	Peroxides
	Alkynes	Chlorinated Alkanes	Explosives	Phenols
	Aliphatics	Chlorinated Aliphatics	Herbicides/Pesticides	TTHM & HAA Precursors
	Amides	Chlorinated Aromatics	Ketones	API – Active Pharmaceutical Ingredients

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Specific Contaminants of Concern

Purifics processes do not generate H₂O₂ residual, Bromate, NDMA and will destroy these contaminants if present.

Fluids Purified

In addition to water, Purifics systems purify fluids such as NAPLs & fuels, and aggressive chemicals such as solvents, acids and bases.

Solution Specification

Purifics complete water purification systems operate at various ranges and are able to achieve advanced purification levels suited to the client's desires or requirements. Purifics technology has been accredited with a variety of awards and certifications.

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