



SpectraClear Canada  
UV POOL SYSTEMS

# Enviably Green.

revolutionary **ultraviolet pool system**  
harness future technology today for less chemicals and a healthier pool



UV 2.0™

# Exposing the Salt Water Pool Myth

## myth | fact

### The Myth: Chlorine-Free

Who wouldn't want a soft, silky, chemical-free, maintenance-free pool? A pool that uses natural salt instead of chlorine...a pool that's good for your skin and hair and with the healing power of the ocean. The buzz over salt water pools spread like wildfire between 2005 and 2008. Sales of salt water pools skyrocketed. By 2008, over 60% of new pools constructed were built with salt water systems.

### The Fact: Salt Systems Create Chlorine

Salt in its natural state is not capable of sanitizing. Salt has to be converted to chlorine through electrolysis, a power intensive process that uses an average of 500 watts. Salt system derived chlorine has the identical chemical makeup as chlorine purchased in a store. The Association of Pool and Spa Professionals, the industry trade group, provides education, certification, and standards. According to the Association of Pool and Spa Professionals, "A salt pool equals chlorine pool".

### Do salt systems create dangerous by-products?

Since salt water pools maintain high levels of chlorine, unhealthy chlorine by-products are created. For pool owners who already have salt systems, SpectraLight can be added to salt water pools to lower chlorine levels and destroy the chlorine by-products.

### The Other Problem with Salt

Salt is corrosive. Salt accelerates the destruction of equipment and structures - coping, decking, plaster, pumps, heaters, ladders, and lights can all be damaged over time. It's become such a problem that many pool builders require salt system buyers to sign legal disclaimers, as the damage is often not covered under the pool's warranty.

### Salt and the Environment

Salt can be very harmful to the environment. Unlike chlorine, salt does not naturally disperse. A typical salt water pool has 530 lbs. of salt, creating a major problem when it's time to drain the pool. Salt can sterilize soil, kill trees and plants, and harm wildlife. Municipalities are taking action. Many cities prohibit backwashing salt pool filters and draining salt pools. Some cities are fining offenders thousands of dollars for violations, while other cities have banned saltwater pools all together.

**The salt water pool may be the most misunderstood concept in the swimming pool industry.**

**"A salt pool equals a chlorine pool."**

Association of Pool & Spa Professionals

**FACT** SpectraClear is fully compatible with salt

# SpectraClear delivers what others promise. Without using a single chemical.

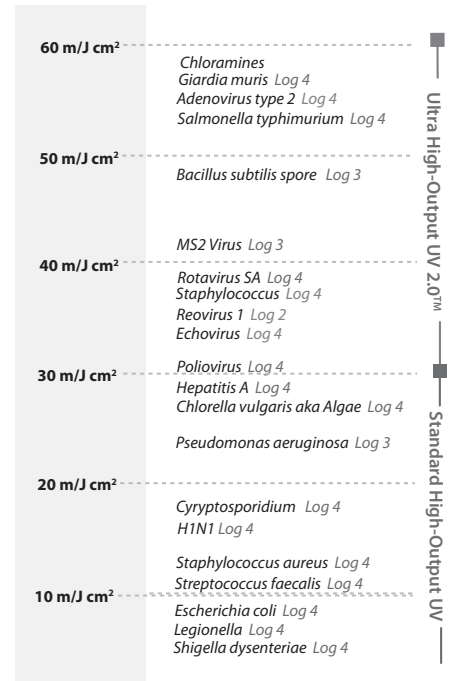
## Is UV a proven technology?

Ultraviolet light is widely used by municipal drinking water treatment plants and bottlers of spring water. And now UV is a proven and safe method of sterilizing swimming pools. UV has been deployed at over 200 public aquatic centers and was installed at the games in Beijing. New York City has designed the world's largest drinking water facility, capable of treating two billion gallons per day. New York will install twelve-thousand ultraviolet lamps - the same type lamps found in SpectraClearUV sterilizers.

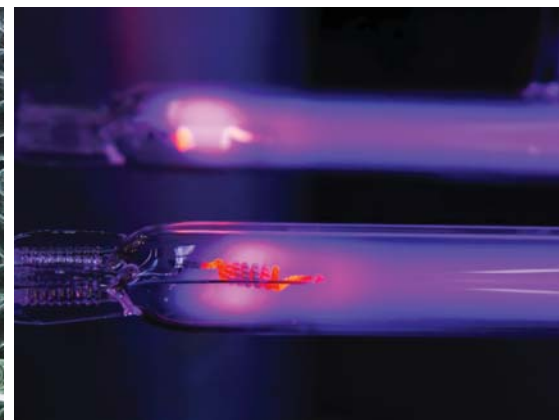
## How valuable is your time?

SpectraClear eliminates the hassles and headaches of pool and spa ownership. With traditional chemical sanitation, water chemistry is trapped in continuous cycle of applying large amounts of chlorine and specialty chemicals. SpectraClear breaks this cycle once and for all. And SpectraLight works automatically which means you'll spend less time on water chemistry and more time on what's important.

### Required Dosage for Inactivation



UV photons bombard microorganisms' DNA. The bonds that connect it's adjacent bases are destroyed, rendering it harmless.



## Does SpectraClear pay for itself?

SpectraClear delivers breakthrough savings. How does \$500. to \$1200. per year or even more sound? Everything will last longer too. Pumps, filters, heaters, plaster, and vinyl liners will give you more years of trouble-free performance. And with SpectraClear on the job there is no need to purchase those expensive specialty chemicals like algaecide. With fewer chemicals to disrupt water chemistry, pH balance is easy. Savings may vary depending on pool size, locations, use, and other factors. Please consult your SpectraLight dealer for a free cost/benefit analysis.

### Chemical Use Comparison

	Typical treatment	With SpectraLight	Percent reduction
residual chlorine	3 - 4 ppm	0.5 ppm	83 - 87%
chlorine shock	every 1 - 2 weeks	every 2-3 months	80 - 92%
stabilizer (cyanuric acid)	30 - 50 ppm	3 - 8 ppm	77 - 94%
pH up/down (muriatic acid) (sodium carbonate)	frequently adjust due to high chemical load	adjustments are rarely needed	75 - 90%
algaecide	varies	never	100%

# Breaking new ground. Setting new standards.

## UV 2.0™ Patented Lamp Technology

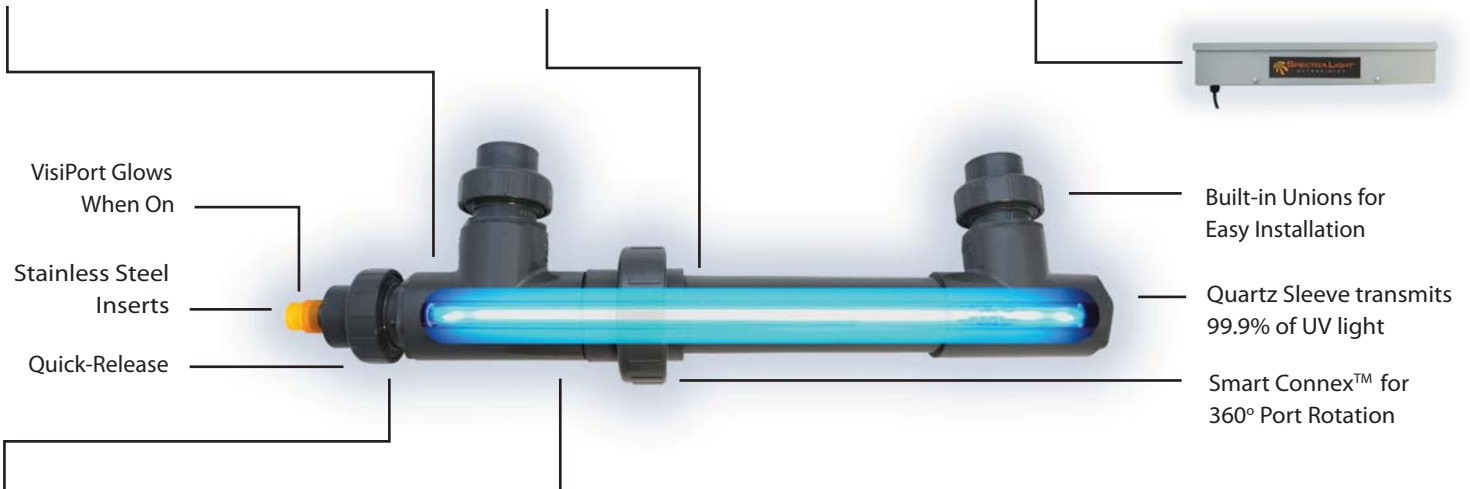
New ultra high-output lamps delivers 4X the UV power as traditional lamps while lowering power consumption up to 30%. Charged with a proprietary blend of noble gases, including Xenon, Neon & Argon, its power-to-size ratio is a remarkable feat - up to 1,000 watts.

## Industrial Graphite Housing

Titanium Dioxide makes our advanced polymer housing resistant to UV and corrosion. It's been tested across the world in some of the most extreme conditions. The design features optimized hydrodynamics for maximum UV dosage.

## IntelliVolt™ Electronic Ballasts

Our solid-state ballasts are engineered for far greater efficiency - saving up to 30% over magnetic ballasts. Fuse-protected and switched, each solid-state electronic ballast is weather protected by a NEMA enclosure powder-coated in stone gray.



## Aerospace Developed Double Seal

Fluoroelastomers were invented to meet the demanding needs of the aerospace industry. Now this high-tech elastomer allows us to push SpectraClear to it's limits. Each part is machined from billet stock for exacting specifications. We then add stainless steel inserts and EPDM O-rings. The result is trouble-free performance for many years to come.

## Intelligent Design

Modular construction is the key to the extraordinary fact that each unit can be assembled and disassembled in less than three minutes without a single tool. Quick-release allows amazingly simple access to quartz sleeve. The sleeve can be removed, inspected and reinstalled in less than 60 seconds, without tools.

## Limited Lifetime Warranty

This industrial strength workhorse features rugged looks and a warranty to back it up. SpectraLight ultraviolet sterilizers are built to last a lifetime. Each SpectraLight comes with a limited lifetime warranty on the housing and a 2 year limited warranty on all electronics.

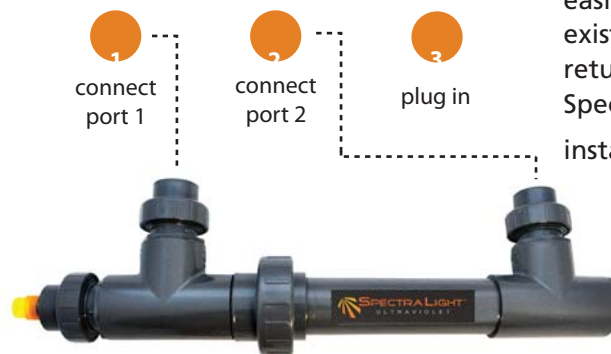


*SpectraClear's stainless steel seal is CNC machined to exacting specifications. Note the double advanced polymer seal for added leak protection.*

## Is Spectra safe?

Spectra is 100% safe. UV is the safest method of swimming pool sanitation. UV light cannot pass through the housing. UV has no risk of overdose and produces no toxic by-products. UV is approved by the EPA for drinking water disinfection.

## Installs in 3 easy steps.



*For all its technical sophistication, a SpectraClear installation is straightforward. Connect the two ports and plug it in, it's that simple.*

SpectraClear sterilizers are easily connected between your existing filter and the water returning to the pool. Most SpectraClear sterilizers can be installed in about 20 minutes with just a couple of tools. Smart Connex allows for 360 degrees port rotation, so small spaces are no problem. Once installed, Spectra uses the power of a light bulb and requires very little maintenance. Just set it, forget it, and sleep secure.

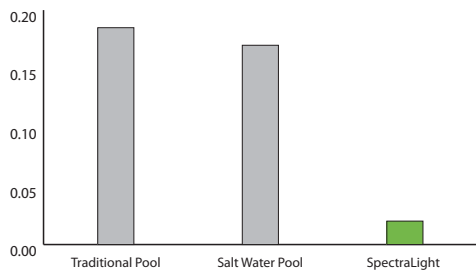
# Are swimming pools safe for people and the environment?

With innovative SpectraClear technology, yes.

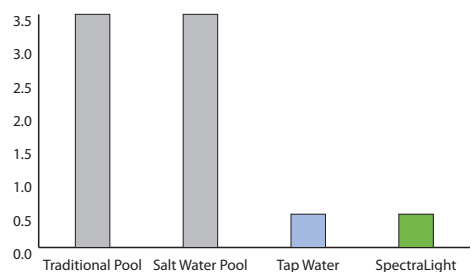


## What is the science behind SpectraClear?

SpectraClear was built on a visionary model for the swimming pool industry -- a model inspired by municipal drinking water treatment. As pool water flows through the sterilization chamber, SpectraClear emits a high intensity UV-C germicidal light ray that targets the DNA and RNA of all types of microorganisms. Bacteria, viruses, algae, protozoan cysts, giardia, parasites, and spores are no match for the power of UV.



Chlorine Level Comparison

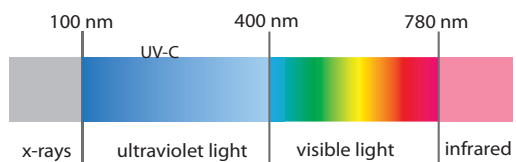


Chloramine Level Comparison

## Breakthrough in pool sanitation.

Less chemicals. Safer pool water. How do we do it? Simple, we harness the raw power of ultraviolet light. Researchers are telling us that a toxic soup of chemicals form in swimming pools. And these chemicals are harming our families. UV technology dramatically lowers chlorine and toxic chemicals for a cleaner and safer pool or spa.

# Ultraviolet light destroys all known pathogens.



Spectrum of Ultraviolet Light

## Proven to reduce chlorine to levels found in tap water

For the first time ever, chlorine levels can be lowered to levels found in drinking water - to just 0.5 ppm. That's one chlorine drop for every 26 gallons of water. Since UV leaves no residual in the water, a small amount of chlorine is needed to sanitize water before it passes through the sterilization chamber. Since SpectraClear produces nothing but light, there are no harmful residuals or side effects.

## Proven to eliminate toxic pool chloramines

Toxic chemicals called chloramines form when chlorine reacts with contaminants such as dirt, leaves, sweat, oils, saliva and urine. Chloramines cause red, stinging eyes, skin irritations, asthma and allergies. These chlorine by-products cannot be biologically inactivated. A powerful dose of UV inactivates dangerous chloramines and other chlorine by-products for a pool that is clean and safe.

# Chlorine by-products must be eliminated for the safety of our children.

Study says pool toxins are more dangerous than secondhand smoke.

## Human health is at risk

Chlorine by-products are at the center of a fierce debate. An abundance of credible evidence is telling us that both our health and our environment are at risk. Chlorine reacts with contaminants such as sweat, urine, oil, lotion and debris to create toxic chlorine by-products. These chemicals build up to form a toxic soup of chemicals.

**“The impact of these chemicals on the respiratory health of children and adolescents appears to be much more important - at least by a factor of five - than that associated with secondhand smoke.**

**There is little doubt that pool chlorine is an important factor implicated in the epidemic of allergic diseases affecting the westernized world.”**

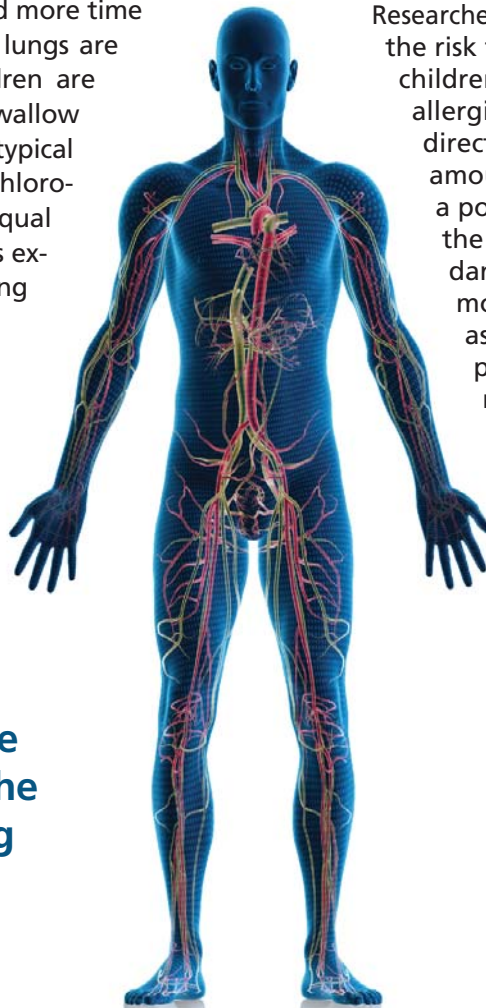
*Dr. Alfred Bernard, Toxicologist  
Catholic University of Louvain*

## How do the toxins enter the body?

These toxins can enter the body in three ways: skin absorption, inhalation of the vapors, and ingestion of pool water. Skin is the largest organ of the body, and is the source of highest exposure. These chemicals can cause burning eyes, skin irritation, difficulty breathing and damage to dental enamel. Worse yet, these chemicals are known to cause asthma and allergies and there is a strong connection with cancer.

## Our Children Face The Highest Risks

Children are at highest risk because they spend more time in pools and their lungs are developing. Children are more likely to swallow pool water. A typical swim can lead to chlorine exposure equal to an entire week's exposure from drinking and showering.



## Sources:

Pediatrics Journal:

Researchers determined that the risk for the 50% of children predisposed to allergies and asthma was directly related to the amount of time spent in a pool. Children with the highest pool attendance were five times more likely to be asthmatic than young people who had never swam in a pool. (Oct. 2009)

American Journal of Epidemiology:

Research conducted at the Centre for Research in Environmental Epidemiology in Barcelona, Spain found that using chlorinated swimming pools increased bladder cancer risk by 57%. (Nov. 2006)

## How can we reduce the environmental impact?

Chlorine causes environmental harm at even low levels, and is especially harmful to organisms living in water and in soil. Chlorine has become a huge business with 23 billion pounds of chlorine being produced each year. Manufacturing releases over 14 tons of mercury per year. If every swimming pool was converted to ultraviolet sterilization, we could eliminate over one million tons of mercury each year.

### Chlorine by-products known to be hazardous to human health:

chloramines	haloacetic acids
chloroform	haloacetonitriles
trihalomethanes	haloketones
dichloromethanes	chloral hydrate
tetrachloromethane	chloropicrin
trichloroethene	cyanogen chloride

# Testimonials

"I would recommend [SpectraClear] highly." "The UV unit has worked great." "It was a phenominal impact."  
"I would recommend the system." "It improved [the pool] tremendously." "I am very happy with my UV light."  
"The water chemistry has changed dramatically." "I gauge the improvement by the following...no irritation."



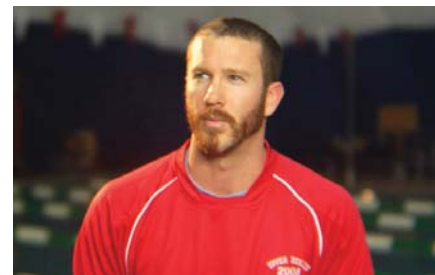
"We contacted Spectra and had a great offer...we got the unit at a good price relative to some of the other commercial products we looked at. It only took a couple of days before the chloramine levels dropped dramatically. It really does work."

*Mark Luttmann  
Aquatic Club President*



"I would highly recommend the system. Within two or three days we could notice an appreciable difference in the amount of burning in their eyes... It was a very dramatic change...it was very quick..."

*Bill Kane  
Swim Competition Officiator*



"It was night and day...it was a totally different environment... you gotta install this system...it's the only thing that helped after everything we tried to do...we haven't had any problems with the kids and the pool."

*Geoff Scheuer  
Swim Coach*

## US Navy selects SpectraClear as UV provider for marine mammal pool

The U.S. Navy Marine Mammal Program trains Bottlenose Dolphins to perform tasks such as ship and harbor protection, mine detection and clearance, and equipment recovery. The biological sonar of dolphins, called echolocation, makes them uniquely effective at locating equipment and dangerous sea mines.

The cornerstone of the dolphin pool water quality program is ultraviolet (UV) sanitation. SpectraClear UV system maintains a healthy environment in the pool by eliminating bacteria and other waterborne pathogens. The U.S. Navy's selection of SpectraClear UV represents a historic milestone for our company. It is an honor to fulfill the U.S. Navy's ultraviolet system needs.



# a new approach

SpectraClear was built on a visionary model that harnesses the power of ultraviolet technology to shift the way that pools are sanitized. This has meant questioning every bit of conventional wisdom. The result is a product that doesn't look like anything that has come before. And of all the conventional wisdom we've left behind in pieces, none has been shattered more fully than the belief that "less" and "more" cannot coexist. At the end of the day, it's about helping our clients improve health and safety, lower costs, and reduce their impact on our planet.

# here's how to get more information

[www.spectraclearuv.ca](http://www.spectraclearuv.ca)