

Carefree Summer Fun

Health Hazards of Your Backyard Pool & Spa

Summer fun is just around the corner and many of us are anxious to get our swimming pools up and running. Other folks have had their hot tubs and spas going all winter long. For both groups it's just a matter of tweaking the chemicals to ensure that all is 'safe' and well.

Is what we are doing safe? If you thought yes then guess again! The levels of chemicals in both drinking water and our swimming pools is raising alarm amongst health professionals and environmentalists.

Toxins are everywhere and have permeated the entire food chain. So it is likely that all life on this planet is to some degree contaminated by such toxic byproducts as dioxin. They accumulate in our fatty tissue and arrive there as a consequence of both drinking and bathing in water as well as eating fish and animal protein. In fact, hormonal im-

balance, suppressed immune systems, reproductive infertility and disruption of fetal development in both animals and humans has been associated with our municipal water systems as well as the use of recreational and residential pools and spas.

The argument is not whether we should treat our water but rather how to treat our water safely. Never before has it become so critical to protect our home environment from the ravages of unethical political decision-making. Change within the realms of political bureaucracy is painfully slow and complex but we can adjust and control the environment within our own homes.

Let's talk about swimming pools. It has been shown that children inhale more air per unit of body weight than

adults. Therefore, it's not surprising to learn that they ingest more toxins per body weight than their older counterparts. Children exude tremendous energy in swimming pools, gulp plenty of water and breathe in gallons of air compared to the adults sitting on the edge observing the fun. It goes without saying that summer fun has now become of great concern. Suddenly, soaking in your hot tub to relax before bed isn't quite as enticing.

It is most likely that up until now you simply have not found the solution to the dilemma. Keep reading!



Here's What the Experts Have to Say

- *"Volatile organics can evaporate from water in a shower or bath. Skin absorption of contaminants has been underestimated and ingestion may not constitute the sole or even primary route of exposure."* (American Journal of Public Health, Dr. Halina Brown)
- *The Nader Report states that the exposure to vaporized chemicals in water supplies results in 100 times greater absorption than through drinking water.*
- *You absorb 6 to 100 times more chemical by breathing the air in a shower, bath, hot tub or swimming pool as opposed to drinking it.*
- *"The cause of atherosclerosis and resulting heart attacks and strokes is none other than the ubiquitous chlorine in our water."* (Coronaries, Cholesterol, Chlorine, Dr. J.M. Price, MD)
- *"Chlorine gas was used despicably during WWI. The combination of chlorine and poor diet inevitably results in heart attacks, stroke and death."* (Water Can Undermine Your Health, Dr. N. W. Walker, D.S.)
- *An article in Contemporary Living 1982, said that where hygienic standards for chlorine application to public swimming pools is adhered to, swimmers may experience two to three times more health problems during the summer. Everyone's eyes are traumatized by chlorine.*
- *Chlorine can disintegrate swimsuits, discolor and weaken hair, dry skin, erode tooth enamel, irritate eyes and bring on an asthma attack.*

The Truth About Chlorine

Chlorine is used for making plastics, pesticides and paper. Although most industries are making huge strides to reduce and ultimately eliminate its use, the end is not yet in sight. The wastewaters from these processes are dumped into the water systems often combining with other formidable substances to form yet more hazardous compounds. It is also used to treat water, although its known byproducts include PCB's, DDT and dioxins. These chemicals have been associated with conditions such as cancer, immune disorders as well as fertility problems among other evils and are indeed mutagenic and/or carcinogenic.

A recent study found that rates for particular cancers such as rectal cancer escalate with the ingestion of chlorinated water. It has also been found that surface water from lakes and reservoirs test higher for chlorine byproducts than deeper water sources. Joe Thornton, of Columbia University's Center for Environmental Research and Conservation, is the author of a book

called Pandora's Poison, which gives detailed insight into the hazards of chlorine use in today's society. The environmental impact alone is monumental and its use is irresponsible in light of the numbers of options available.

TRIHALOMETHANES

Trihalomethanes (THM'S), are a by-product of chlorine and are formed when chlorine reacts with hair and skin. If people using swimming pools and spa's treated with chlorine shower prior and after entering the water, the development of THM's are reduced.

The Imperial College London found that even low levels of THM's found in tap water contribute to spontaneous abortion, stillbirths and congenital malformations. Of course, THM's are much higher in pools than tap water. The uptake of all chemicals found in water can be as much as 141 times greater in a one hour swim verses a 10 minute shower. On the other hand, a

hot shower opens the pores, which allow for an even greater permeability of chemicals through both the skin and via inhalation.



Regardless of the studies and concerns of the public, Ralph Riley of the National Pool Water Treatment Advisory Group maintains that, "The medical benefits of swimming far outweigh any problems caused by chemicals." Now that is an interesting comment, isn't it?

Belinda Phipps, of the National Child-birth Trust highly recommends that the chlorine count in swimming pools be reduced. She states, "The burden of responsibility here lies with the appropriate regulatory bodies and not with pregnant women to restrict their habits and lifestyle because of preventable and unnecessary factors such as this."

Ammonia Perchlorate & Thyroid Problems in Children

The August 2000 journal of Occupational and Environmental Medicine spoke of the hazards of perchlorate in municipal drinking water. It blames even low levels of this chemical for the influx of thyroid problems in children. One of the researchers states, "There is a statistical association between low-level contamination with ammonium perchlorate and elevated or abnormal thyroid function."

Water treatment plants have no way to eliminate this potentially harmful substance that has now leached into the Colorado River system, which is a source of drinking water for over 20 million people.

Ammonium perchlorate is a rocket fuel oxidizer that was produced by Kerr-McGee and the former Pacific Engineering & Production Co. of Nevada, or PEPCON plant, which was located near Henderson until a series of explosions leveled it in 1988.

The primary health concern related to

perchlorate is that it may interfere with the thyroid gland's ability to use iodine to produce hormones. In a hormone-deficient condition, metabolism, growth and mental development can be affected.

In the past, doctors have used relatively high doses of potassium perchlorate to treat patients with hyperactive thyroids. There is no consensus as to what amount or exposure level of perchlorate would affect thyroid functions.

Brenda Pohlmann, a state environmental scientist who is tracking perchlorate issues, said development of a drinking water standard for the chemical won't change the state's approach on cleaning up perchlorate contamination at production sites upstream of Las Vegas Wash, which empties into Lake Mead. She said the state sees no urgency to remove the chemical entirely.

"It's going to be in the water for awhile until we can treat it and get it

down to low levels," she said. Pohlmann said the highest perchlorate level detected in Lake Mead near Southern Nevada's drinking supply intakes was 16 parts per billion in December 1997.

Despite opposition from the Pentagon, the Schwarzenegger administration is planning to issue safety guidelines for ammonium perchlorate that has tainted water supplies in 29 states. Environmentalists, however, have criticized California's pending standards as being too lenient. Studies of laboratory rats have shown that even tiny doses of perchlorate can affect the thyroid's production of hormones that are critical to early childhood development, which suggests that the pollutant could be particularly threatening to pregnant women and young children. However, the level at which perchlorate poses a danger to human beings remains unclear.

Cyanuric Acid - Yet Another Pool Chemical

Cyanuric acid is sometimes added to pools to protect the chlorine from the deteriorating effects of the sun's ultra-violet rays. The bad news is that chlorine combined with Cyanuric acid is not an effective agent and the kill time for harmful organisms is drastically reduced.

Chlorine in itself is easily weakened by small increases in pH water balance. If the pH becomes too high, chlorine becomes useless. If Cyanuric acid is added, the efficacy of chlorine diminishes even further.

'PESTICIDES' IN YOUR POOL?

Swimming pools are a major source of atmospheric chloroform, a situation so



drastic that some states are classifying pool chemicals as pesticides. The Pennsylvania Department of Agriculture has implemented rules requiring distributors of pool chemicals to be licensed as pesticide applicators. The bottom line is that chemicals are hazardous to the environment.

Chlorine alone is simply a convenient method of water sanitization. The problem is its by-products that are proving to cause cancer and illness in addition to its environmental destructive abilities.

How About Ozone?

Ozone swimming pool cleaners are very popular alternatives for chlorine treatment and one of the reasons is that when water is ozonated, algae is oxidized and floats to the top. Metabolic by products of algae are oxidized also, removing odor and taste. So cleaning the pool is not such a frequent or time-consuming job, chemicals are not required and the water is smelling good and clean.

OZONE is an excellent disinfectant, however it produces by-products of its own such as formaldehyde. All of a sudden Ozone isn't looking so good.

Formaldehyde is toxic at even low levels and is used in embalming fluid. Enough said.

CHLORINE DIOXIDE Other by-products, such as chlorine dioxide, must be further examined to determine their potential chronic toxicity. Chlorine dioxide has been used in many systems as a disinfectant however it has two major DBP's which are chlorite and chlorate that both present toxicological risks if ingested. It is estimated that up to 10,000 cancer cases per year are due to chlorine DBP's.

As well, the costs for ozone are considerably higher than for

chlorine or other alternatives.

Another outstanding concern lies in the fact that ozone depletes the atmosphere.



Hot Tubs - "Little Tubs of Horror"

Consider this. The more people in your hot tub, the more skin debris that will contribute to the formation of chloramines.

The temperature of the water increases the uptake of pathogens and chemicals into the body. Combine this with alcohol and your chances of a double hangover increase...one from the alcohol entering your system more rapidly and the other from the increased uptake of chemicals.

Alcohol acts to expand your blood vessels and increase your body temperature. The combined effect can be damaging as the body temperature can escalate quickly, causing nausea, dizziness, etc.

The question remains: How significantly do the inhalation and absorption of chemicals contribute to health problems? The bottom line is "Bather Beware!"



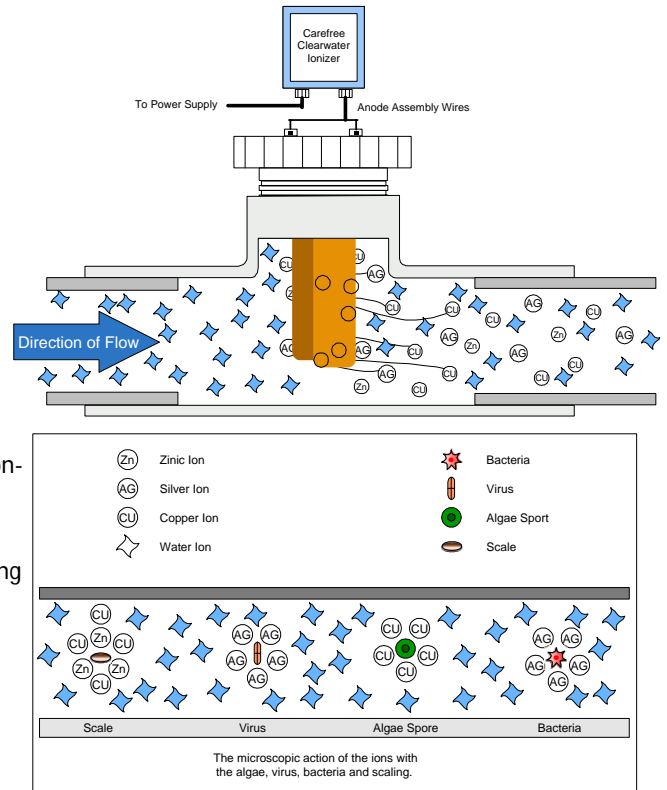
Carefree Clearwater Systems

Finally, the solution you have been looking for is here. The Carefree Clearwater system automatically releases copper and silver ions into the water, killing bacteria and algae and then filtering them out.

The ion chamber is easily installed after the filter and the unit is put on a timer or wired to the pump. It doesn't get easier than that!

Let's look at the reasons for choosing ionization as your pool and spa water treatment.

- ◆ Automatic sanitizer
- ◆ No more daily chores
- ◆ No more handling of dangerous chemicals
- ◆ No more expense
- ◆ Excellent algacide and bactericide
- ◆ Superior water quality
- ◆ Minimal halogen level
- ◆ Balanced pH
- ◆ Non-irritating, gentle for eyes, skin and hair
- ◆ Creates mineral water purity
- ◆ Manufactured under NASA patent
- ◆ Extended pool and pool equipment life
- ◆ Non-corrosive, non-bleaching
- ◆ Extensive independent lab testing
- ◆ Used since 1985



Why Ionization Is Better Than Chlorine

<i>IONETICS...</i>	<i>IONETICS</i>	<i>CHLORINE</i>
<i>... Faster acting than chlorine</i>	50% kill per 2.5 minutes	50% kill per 3 minutes
<i>...More complete than chlorine</i>	99.5% One hour kill	97.5% One hour kill
<i>...Longer lasting than chlorine</i>	75% two hour residual	34% two hour residual

*Based on independent laboratory studies #4411 86-377 and #4411 86-312 available upon request.

- Ionization is the process of an atom gaining or losing electrons. The Carefree Clearwater system generates copper and silver ions for water purification. It is both safe and beneficial to enjoy the waters produced by this system.
- A safe DC current passes through a sealed chamber where metallic ions are generated for water purification. The algae and bacteria are destroyed because their enzyme processes are changed. Also, these altered particles join together and are pulled out efficiently by the filter.
- The Carefree water system uses a minimal halogen level. Using a non-chlorine oxidizer from time to time will be necessary to break up the oils from such things as suntan lotion.
- The pH is easily maintained by the ions.
- Routine water testing is necessary to ensure that all systems are in balance.

The History of Silver and Copper

As far back as the Roman Empire silver goblets and utensils were used intentionally to prevent the spread of disease. Even our own grandmothers used to place a silver dollar in the bottom of the milk jug and wrap silver foil around wounds to expedite healing. Cyrus the Greek, King of Prussia purposefully carried water in silver flacons to preserve the quality of water on expeditions.

The 1930's recognized the bactericidal effectiveness of silver although its application was exercised a mere 40 years ago when the interior walls of reservoirs assisted in protection of water in warm climates. By 1991, the US Environmental Protection Agency officially removed silver from the US Primary Drinking Water Standard List of Contaminants.

Chlorine free silver-based water purification systems have been used in Europe for numbers of years. It effectively kills vegetative germs, especially those causing diseases such as typhus, paratyphus, dysentery, colibacillosis, cholera, influenza and mumps.

COPPER

Copper is an essential daily nutrient and is an algacide, fungicidal and bactericidal. It is a naturally occurring element incorporated in the production of paints and wood preservatives to inhibit the growth of algae and fungus.

Copper is used in the body for ceruloplasmin synthesis, a copper containing protein. This mineral is also beneficial because of its ability to balance sodium and potassium levels.



Chocolate is high in copper and women crave chocolate near their menstrual period because of a deficiency of this element.

Copper has been used for years in swimming pools, fountains, lakes and ponds to control algae problems. Copper is an excellent algacide and silver is a powerful bactericide...a beautiful combination.

Carefree Clearwater Is Everywhere!

- YMCA New Jersey
- Coast Guard Facility Florida
- Colleges
- Camp resorts
- Apartment complex pools
- Health and racquet ball clubs
- Hotels
- Zoo's
- Disney World Florida
- Produce companies
- Water-cooling towers throughout the US



Children spend more time in the pool than adults without a doubt. They also expend more energy than their older counterparts. Whether you are a 'soaker' or a 'swimmer', your first choice is Ionization.

Ionized water purification systems use two electrodes that are made primarily of copper and silver and use low voltage. It can be easily installed and special electrodes are housed in a small bowl-shaped tank with inlet and outlet pipe flanges that attach to the piping outside the pool. A filtering system is still required to remove dirt, leaves, etc. The concentration level of the ions is controlled by an electronic unit and simple adjustments will assist you in achieving the appropriate levels. Until such time, a small amount of chlorine may be necessary. The only expense is replacement of the electrodes every 3-5 years.

SAY YES TO....saving money, clear eyes, soft skin, beautiful hair, mineral water, fresh smell, automatic protection, periodic testing, electronic care, less handling, dosing and storage, safety....good health!

SAY GOODBYE TO...expensive chemicals, burning eyes, itching skin, damaged hair, ruined bathing suits, toxic water, offensive odor, daily maintenance, dangerous handling, dosing and storage, constant expenditures, health problems...corrosive explosive chlorine!

WELCOME CAREFREE CLEARWATER!

Over 28% of the calls into Poison Control Hotlines are related to Chlorine poisoning

The Absolute Necessity of Good Water - Inside and Out

Not only is it important to protect yourself from the hazards of recreational water enjoyment, it is also imperative that you address the water you are putting in your body. Did you know that the human body is 70% water? It is actually the absence of water in the system that triggers the hypothalamus, the brain's thirst center, to relay the message that it's time to replenish our fluids.

WATER PERCENTAGE IN VARIOUS PARTS OF THE BODY

Teeth	10%	Lungs	80%
Bones	13%	Brain	80.5%
Cartilage	55%	Bile	86%
Red blood cells	68.7%	Plasma	90%
Liver	71.5%	Blood	90.7%
Muscle Tissue	75%	Lymph	94%
Spleen	75.5%	Saliva	95.5%



Now that you have made the decision to treat your pool and spa safely with CAREFREE CLEARWATER, explore the one clear choice for exceptional drinking and bathing water.

The Wolfe Clinic's Wellness Water Filters are state of the art. The scientist and developer of Wellness Water Filters, Haru Nato, is a highly sought after expert in the water technology world. Never before has water been stabilized, purified and enhanced this successfully.

Talk to our knowledgeable staff about the many benefits of WELLNESS WATER FILTERS. There are no shortcuts to good water and good health. You're worth it!

Ask for a **FREE INFORMATION PACKAGE** with a **WELLNESS WATER VIDEO**
1-800-592-9653



DO YOU LOVE HOT TUB PARTIES?
DO YOUR KIDS LOVE THE NEIGHBOR'S SWIMMING
POOL?

IF YOU OWN A POOL OR A SPA OR HAVE FRIENDS
THAT LIKE TO SHARE THEIRS WITH YOU,

CHECK OUT OUR

CAREFREE CLEARWATER
IONIZATION WATER FILTRATION SYSTEM.

Call us Today!

1-800-592-9653

REFERENCES

- Aiking, H., van Acker, M.B., Scholten, R.J., Feenstra, J.F., & Valkenburg, H.A. (1994). YOUNG SWIMMERS AT GREATEST HEALTH RISK IN CHLORINATED INDOOR POOLS
Swimming pool chlorination: a health hazard? *Toxicology Letters*, 72(1-3), 375-380
- Beech, J.A., Diaz, R., Ordaz, C., & Palomeque, B. (1980). Nitrates, chlorates and trihalomethanes in swimming pool water. *American Journal of Public Health*, 70(1), 79-82.
- Bragg, Paul. *Water, The Shocking Truth*, page 9.
- Centerwall, B.S., Armstrong, C.W., Funkhouser, L.S., & Elzay, R.P. (1986) DENTAL ENAMEL EROSION INCREASED IN COMPETITIVE SWIMMERS IN CHLORINATED POOLS . Erosion of dental enamel among competitive swimmers at a gas-chlorinated swimming pool. *American Journal of Epidemiology*, 123(4), 641-647.
- Decker, W.J., & Koch, H.F. (1978). Chlorine poisoning at the swimming pool: an overlooked hazard. *Clinical Toxicology*, 13(3), 377-381.
- Drobnic, F., Freixa, A., Casan, P., Sanchis, J., & Guardino, X. (1996). EXERCISING INCREASES THE TOXICITY OF A "SAFE" CHLORINATED POOL ATMOSPHERE Assessment of chlorine exposure in swimmers during training. *Medicine and Science in Sports and Exercise*, 28(2), 271-274.
- Mustchin, C.P., & Pickering, C.A. (1979). "Coughing water": bronchial hyper-reactivity induced by swimming in a chlorinated pool. *Thorax*, 34(5), 682-683.
- NEW SCIENTIST 18 September, 1986, Ian Anderson
- Rozelle, Lee T. PhD, Chlorine's Future Bodes Well for POU/POE Industry, *Water Conditioning and Purification* February 1993, page 48-53.
- U.S. News and World Report, July 29, 1991, Is Your Water Safe - The Dangerous State of Your Water.
- Herman, Eric, *Pool and spa News*, January 14, 1991, facing the Cyanurate Riddell, page 74 - 80.
- www.reviewjournal.com/lvrj_home/1999/Jan-14-Thu-1999/news/10406713.html
- www.latimes.com/news/local/la-me-perc11mar11_0,5795843.story?coll=la-headlines-california
- www.mercola.com/2002/1pr/17/chlorine.htm
- www.news.bbc.co.uk/1/hi/health/1909268.stm
- www.karinya.com/chlorine.htm
- www.carefreeclearwater.com
- www.mrw.interscience.wiley.com/ueic/articles/a08_191/frame.html
- www.dsf.health.state.pa.us/health/cwp/view.asp?a=180&q=234664
- www.lsbu.ac.uk/water/ionis.html
- www.holistichealthtools.com/chlorine.html
- http://thyroid.about.com/cs/toxicchemicalsan/a/flouride_3.htm
-