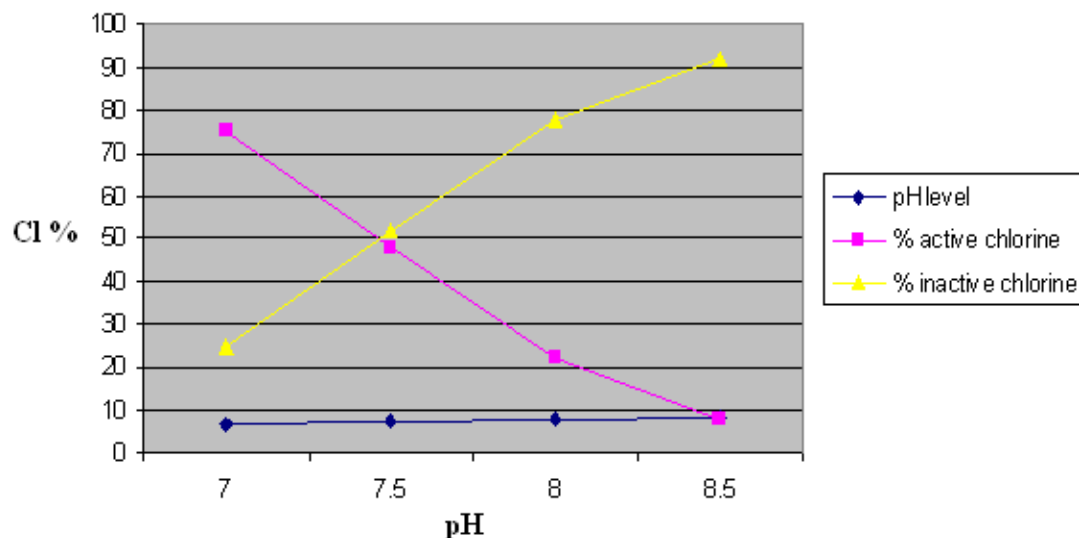


## Chlorine - Reduced Effectiveness with High pH



## Discover the Hidden “Sanitation Problem”

### That All Pools and Spas Have!

#### 90% Of The Time Your Pool Or Spa Is Not **Healthy!**

This is a bold statement but true, and here’s why. There is no way that you or your pool service person can manually keep your pool sanitized or chemically safe. You are either swimming in a pool of invisible bacteria and algae or the chemical levels are so high that your body is absorbing chemical toxins. These chemical toxins also destroy your pool surface and equipment. You would literally have to stand beside your pool and check it every hour and make chemical adjustment to make it safe. How do we know this?

#### *Through years of research and Field-testing.*

Daily tests and monitoring of 100 pools for just 6 months. They were checked for bacteria and chemical levels and no more than 10 of the pools were in a safe range on either parameter at any given day. What this means is that 90% of the time those pools were not safe to get in. Some pools had professional service, and some were owner maintained. It made no difference.

It was recently reported that in a study of pools in Florida there was a 21% increase in water borne disease caused by public pools in Florida for the summer of 2004. The Tampa Florida area News Media and other national media have reported numerous problems in residential pools, as well. - *Is your pool maintained better?*

#### It’s Time To Wake-up And Learn The Facts!

**The “Cosmetic Water Trick”:** Pool service companies and pool supply stores have been selling what is called “Cosmetic Water” for years. Cosmetic water is water that looks good, but is so over loaded with chlorine, bromine, and other chemicals that the water is nearly lethal, or at best, toxic and unhealthy to you and your family.

75% percent of the cost of taking care of your pool is in the “Time and Travel”- not the chemicals - so the less they visit you the more they make. The more chemicals they put in the less they visit. They don’t care that the chemical levels are hazardous to your health; their motto must be “just keep the pool from turning green”. You see, they know that you are

judging your pool or spa simply by how it looks, and not by what kinds of bacteria or chemicals are in it. It should be a crime.

### **Can this be fixed?**

Yes, but we must learn the truth about how a pool functions. There are six parameters that need to be maintained to keep your pool or spa safe, and clean.

The parameters are:

1. pH control,
2. Circulation,
3. Filtration,
4. Sanitation,
5. Oxidation,
6. Not forgetting General Cleaning.

All of these parameters have a degree of importance, but the most important parameter is **pH**. Proper pH is the foundation that supports the proper sanitation and oxidation of bacteria, algae and other pathogens. Filtration, circulation and general cleaning are mechanical parameters and are easily maintained by observation of equipment. But, no matter what type of sanitizer or oxidizer you use, they are only as good as the pH level of the water you put them in. Chlorine, Bromine, Baquacil, Sustain, Salt, and Copper Ions, are all dependent on proper pH levels to be effective. *Are your pool parameters better controlled?*

### **Here is how it works:**

The pH of a pool or spa is affected by many variables, heat, cold, pool surface, backwashing, adding water, draining water, people getting in, adding sanitizer (chemicals), rain, dirt and more. The less volume of water you have, the more significant these variables become. Now, let's see how pH effects the cleanliness of your water.

Let's say your 10,000-gallon pool has a chlorine level of 2.0 PPM (*it should be 1.0 or less*) and the pH is 7.6. At this pH level the effective killing power ( " EKP " ) of the chlorine is 45%. If a couple of people get in to swim, the pH will go up in just a few minutes. If it just goes up by 1/10 to 7.7 the EKP of the chlorine will go down to just 35%. A 10% drop in killing power. Add a few more people, and the pH will be in the 7.9 - 8.0 range in no time, and the chlorines' EKP goes down to a mere 20% or even less. Just when you need the killing power of chlorine, it's gone. You now have a choice to either add chlorine to (4.0 to 5.0) to compensate for the low killing power, which turns the water into a very unhealthy, toxic chemical soup. Or, you add acid to the pool, which of course you can't do while people are swimming in the pool. So you see, it's the EKP of the chlorine that matters, not how much chlorine is in your pool. At a pH of 7.3, chlorine has an impressive EKP of 75%. So, if you keep the pH at 7.3 you will use up to 80% less chlorine, and have a much safer pool - saving you money and safeguarding your health.

**The bottom line is this.** No matter what type sanitizer you use, you must **automate** the control of pH levels (*i.e., use an Auto- pH control system*) in your pool or spa in order to keep it bacterially and chemically safe for you to use. If you don't, your health is at a much higher risk.