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WEIGHING ALL THE OPTIONS

"No Single Product Acts as a Complete Replacement for Chlorine - Other Than Electrolytic Generators."

The simple fact is that alternative water-treatment systems and chemical additives represent an exciting realm of possibility for the pool & spa industry. These products, however, also provoke tough questions that we in the industry must ask ourselves – and answer -- if we are able to help our customers and friends·

WHAT WE KNOW

As a starting point, what we as an industry think about alternative treatment methods and what we tell our customer should logically follow as the result of what we know about these products.

Unfortunately, knowing what is fact and what should be filtered out as marketing hype is often difficult.

For starters, the word alternative is inadequate. In fact, the only reason that word is commonly used in this context is because the pool and spa industry is currently evolving from a point in time when there were very few choices.

For years, in fact, bromine was considered an "alternative" sanitizer. When trichlor and dichlor first came on the scene, they, too were considered to be "alternative products" by some people.

Going by Webster's, to say something is alternative literally means it can function as a substitute. The problem here, however, is that the discussed substitutes are often really supplements or complements, a problem of our terminology that too frequently has clouded our discussions.

And the evaluation of these technologies is important, because for whatever reason, many consumers today want to move away from Chlorine. For some, like my inquisitive friend, chlorine smells and irritated skin and eyes have served as a foundation for resistance to chlorine; for others, media coverage of the dark side of chlorine chemistry has been the spur.

Stated plainly, chlorine has taken a hard rap in the past few years; like it or not, consumers are listening and making purchasing decisions based on what they read and hear.

FILLING THE SLOT

For all the negative press chlorine's gotten, however, it's still the champ: We know for certain that no single product acts as a complete replacement for chlorine -- other than electrolytic chlorine generators, of course, which use chorine itself as the foundation of their water-treatment strategy.

To be sure, some manufacturer's of competing systems may resist accepting the fact that their products fall short of chlorine in one way or another, but so far it has been indisputable. Consider ozone, for example, one of nature's most powerful sanitizers and oxidizers. It kills most microbes as effectively if not more effectively than chorine and is quite good at breaking apart organic compounds.

Ozone does not, however, stay in solution the way chlorine does: Within minutes of generation, it ceases to exist in water; recombining as oxygen. As a result, ozone systems are at their best only when run all the time -- or when they are used with a small residual of a sanitizer (typically chlorine or bromine) that does stay in solution. And many experts also recommend using a non-chlorine or bromine shock treatment to help with organics too.

What about metal ions? Ionized molecules of copper or silver do indeed stay in solution and have proved laboratory studies to be effective killers of algae and many forms of bacteria. But metals used this way do not function as an oxidizer

leaving compounds introduced by dirt, sweat and urine untouched.

And then there are **biguanides**, the only sanitizing polymer used in pools and spas -- and the heart of the one available water treatment system that can be said not to use chlorine at all. It must be stressed, however, that biguanides don't do the whole job alone in providing safe, clear water: Their biocidal properties must be supported by the oxidizing power of hydrogen peroxide and regular administrations, of select algaecides.

Even **bromine**, chlorine' s closest chemical competitor and cousin, comes up short. It is an oxidizer and a sanitizer and does stay in solution. Unlike chlorine, however, bromine cannot be stabilized in sunlight. As a result, bromine based strategies have been applied most successfully with indoor pools and spas rather than in outdoor installations.

ONE-TWO PUNCHES

Dollar for dollar, it is far cheaper to work with chlorine than with ozone and bromine.

Systems using ultraviolet light to generate ozone are relatively inexpensive, but they're generally effective with the small volumes of water found in spas. For pools, corona discharge systems make the grade in terms of ozone output, but they can be extremely expensive.

HANDLE WITH CARE

Beyond such practical considerations, there's been discussion of the possibility that, in addition to creating an effective water treatment system, bringing ozone and bromine together in this way also may -- and we strongly stress the word may -- generate troublesome by-products.

Among those by-products was bromide, a suspected carcinogen.