

BROMITON™ ... the EPA Epic

In 1990 Bromitron Bromine Generators started manufacturing bromine generators targeting large commercial properties. Within a few years they had bromine generators in Busch Gardens, Disney properties, Sea World and over 100 YMCAs. In 2001, Bromitron made a decision to enter into the highly competitive portable spa sanitizer market. Their product's unique offerings to the marketplace, plus the benefits to end consumers, made this an easy choice.

Presently most spas that use something other than soluble chemicals for sanitation use an ozone generator or an ionizer. Both being only *supplemental sanitizers*, meaning they need an EPA approved disinfectant to be used in conjunction with the device. There are also chlorine generators for spas but, chlorine (HOCL) is relatively short-lived at spa-use temperatures, is very pH dependant and often converts to the undesirable Combined Chlorine form in spas, due to high levels of body waste present. Bromine (HOBR) is the obvious answer. Bromine is more stable in higher temperatures commonly found in spa water, is not as pH dependant as chlorine and functions, on its own, as a *primary sanitizer*.

Sodium bromide can easily be used to produce Free Bromine (HOBR) when oxidized.

It is theorized that Bromine compounds can produce a by-product called Bromate when exposed to direct sunlight. Although Bromate is not listed as a contaminant by the EPA, it is considered a potential issue.

Bromitron, being a proactive company which places the safety and satisfaction of the consumer as its highest priority, decided to have some tests performed in a sanctioned and certified diagnostic laboratory. In doing so, they hoped to understand and act on any potential issues before they arose.

Using EPA protocol, test results

showed that electrolytic conversion did not produce a significant level of Bromate. Over a ninety-day test period a level of less than 11% of the allowable level in drinking water was found in the test spas. It was determined that prolonged exposure of water to direct sunlight, not electrolytic generation, was the main source of Bromate found in the water. The key? The spas had to be kept out of the direct sunlight. Spa covers minimized, or eliminated potential creation of Bromate. Electrolytic generation was found to be virtually a non-factor.

The next step in this unprecedented journey was to take the results of the study to the U.S. Environmental Protection Agency in Washington DC. After looking over the findings, the EPA's Chief of Antimicrobials said that with further review there was potential for an EPA registration but, it was definitely not guaranteed.

An EPA registration had never been awarded to a piece of electronic equipment because they were considered a *device*, not a pesticide. The final determination was that although neither part of the system (NaBr + generator) is a pesticide by itself, when used in conjunction with one another a very effective pesticide is produced ... B R O M I N E . Considering the fact that Canada requires registrations on all sanitizing equipment it seems only logical that the U.S. will soon follow suit.

For almost a year the EPA looked at every facet of the Bromitron Bromine Generator and with the help of an EPA Registration Specialist; acceptable verbiage, which would allow the next phase to move forward, was established - "*BromiCharge (NaBr) to be used in conjunction with the Bromitron Bromine Generator*" in the production of bromine.

After sixteen months the "Efficacy Study" began. Again, the test lab was required to follow strict EPA protocol to establish the *kill power* of bromine. Even though bromine had previously been well-documented as a very effective pesticide, the ever-

cautious EPA required Bromitron to prove it again. Simultaneously, an EPA Risk Assessment began to demonstrate whether the Bromitron Bromine Generator had an environmental and usage level of risk that could be deemed acceptable. It took an additional fourteen months to complete these two studies to the EPA's satisfaction.

Almost three years from the onset of their journey, Bromitron began what would be the final test, the Field Study. Samples were taken from an outdoor covered spa and an indoor spa by a certified lab that had been deemed acceptable by the U.S. EPA. Consecutive, daily samples were required, resulting in the delivery of one sample in a 75 mile-per-hour, hurricane wind.

In June of 2005, Bromitron was finally awarded an EPA registration (#8622-69). The Field Study had proven so effective that a "Disinfectant" rating was given to Bromitron based upon the system's killing of 99.999% of the targeted organisms within 30 seconds as opposed to a "sanitizer" which kills only 99.9% in 10 minutes! To no ones surprise the daily water clarity samples showed absolutely no "Black Dust" from the system's high grade patented graphite plates.

Bromitron Bromine Generators' EPA journey took four very long, expensive and, at times, frustrating years. However, the outcome has made it all worthwhile. Bromitron offers spa manufactures, dealers and consumers environmentally responsible, low liability exposure products with strong worldwide patent protection on its bromine generator (US # 5,254,226), and possesses an unprecedented EPA Registration and State Pesticide registrations nationwide; demonstrating, once again, that... *Bromitron is one of a kind, not one of many!*

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