



### **Artesian Mineral Spa**

**A low-chemical way to sanitize your hot tub**

#### **Background:**

Most spa owners LOVE their hot tub but HATE treating their water. We get it! It's a hassle! Done wrong, poor chemical maintenance can result in premature wear and damage to your hot tub. Every week we are asked about ways to treat spa water that are chemical free, or chemical reduced. A huge stir has been created by the use of salt or bromine salt systems in pools, and the desire / belief that these systems work in spas as well. We have yet to discover a salt system that makes us truly happy here at Purewater: A few considerations:

- SALT systems actually sanitize by converting salt (sodium chloride) into chlorine or bromine salt (sodium bromide) into active bromine (hypobromous acid). These systems are in no way, shape or form 'chemical free'; they manufacture chemicals inside the tub rather than having you add it manually.
- SALT systems have unwanted side effects. When a salt spa is drained, much like a piece of metal taken from the bottom of the ocean, metal surfaces inside the spa (rails, jet faces, heaters, etc...) start to corrode as soon as they are exposed to air. The plates inside a salt generator can themselves start to degrade and permanently stain a spa. Finally, the small amount of current injected into the spa water by a salt cell combined with the improved conductivity of salt water leads, over time, to electrolytic corrosion and staining issues.
- SALT systems do not alter the need for basic balancing; you still need to maintain the pH, alkalinity, and calcium levels. In fact, salt systems tend to drive the pH constantly up, creating the need for regular addition of acid to the spa.
- SALT systems are not 'automatic'; you need to turn them up or down regularly, just like you need to adjust the dose of chemical, depending on bather load, water temperature, etc...

Another recent development is the introduction of a few 'miracle' products, with names like Spa Marvel or Aqua Finesse. These are often sold, with a wink and a nod, as 'replacements' for traditional chlorine or bromine treatments. When you read the directions, however, you quickly discover that, while you may be able to lower chlorine consumption, these systems all, without exception, still require the exact same regimen of balancing and treating with chemical sanitizers and oxidizers, albeit reduced dosages. Because these products do not disclose what they contain or how they work, what the active ingredients, chemicals, or minerals are, there is no way to properly measure their likelihood of success or failure.

**A solution that WORKS:**

We use the Artesian Mineral Sanitizer system (also called Nature-2) in our showroom hot tubs, and have been using it for the past 2 years. The results are overwhelmingly positive. This system works in harmony with small doses of concentrated and very pure chlorine (Chlor-Aid) and Potassium Monopersulfate (Spa Shock); a 100% bromine / chlorine free oxidizer to reduce the demand for chemical sanitizer dramatically: as much as 60%. For those wanting to try a low-chemical system that is SAFE and TESTED EFFECTIVE, we are pleased to recommend the following.

**Procedure:**

Start with a fresh fill and clean filters. When changing chemical systems, it is a good idea to deep clean the lines with Spa Purge. When the spa has been refilled, you will need to balance the water as usual; pH, alkalinity, and calcium. Follow the fresh start prescription for balancing you already have, or bring us a sample of the freshly filled spa water.

Load the Mineral Sanitizer cartridge into the filter / skimmer area. Follow the directions on placement enclosed in the package. Give the spa an initial shock treatment using 20G of Chlor-Aid per 1,000 litres of spa water, and leave the cover off for 30 minutes so it can off gas.

Each time you use the spa when you are done, before you close it up, treat it with Chlor-Aid at the rate of 10G per 1,000 litres. 10G is just over a teaspoon, so GO EASY! If you go a full week without using the spa, give it a treatment of Chlor-Aid (10G per 1,000 litres) to be safe.

You should be able to test and see a level of 2PPM chlorine using your test strips. If not, see us with a water sample; there may be a need to re-shock the spa. If you are seeing higher levels, cut back the dose very gradually and retest. Shock the spa. Weekly if you are a heavy user, less frequently if you only use the spa once in a while, using 125G of Spa Shock per 1,000 litres.

Have the water tested by Purewater every 6 weeks or so. Once the TDS climbs it will be time to drain and refill the spa, and replace the Mineral Sanitizer cartridge when you refill. Using the above system you should be able to run the spa about 50% longer between refills than with traditional chemical treatments.

**Enhancements:**

To further reduce the amount of chemical you use, try Ultra Spa and Spa Perfect each week. Ultra Spa uses Borate, a naturally occurring mineral, to enhance the efficiency of the chemical sanitizers in the water and improve the feel and sparkle of the water. Spa Perfect is a natural enzyme that breaks down and digests oils and other organics in the water. In addition to reducing the chemical demand, it helps improve the filter efficiency and minimizes the 'bathtub ring' you sometimes see. When using these products, test your water regularly, and when you notice an increase in available chlorine on your test strips, you can reduce the dosage of Chlor-Aid accordingly, gradually. Other chemical reducers to consider are the Zorbie or Spa Bug which float at the surface of the water (inside the skimmer) and draw out oils and greases. If you are on a well source and have a lot of sediment in the water try using a pre-fill filter which will also cut chemical demand. Finally, regularly clean your filters with Filter Perfect or Purewater Cartridge Cleaner. A clean efficient filter substantially reduces the chemical demand of your hot tub.