



Cambridge Guernsey County Health Department  
326 Highland Ave. Cambridge, OH 43725  
740-439-3577  
740-432-7463  
[www.guernseycountyhealthdepartment.org](http://www.guernseycountyhealthdepartment.org)

## **Pools Equipped With a Chlorine Generator From Salt**

Once your pool is equipped with a chlorine generator, it will produce its own pool chlorine from a small amount of pool salt that is dissolved into the pool water to provide for the pool's sanitizing needs. A salt-chlorine generator uses the simple process of electrolysis in combination with the water to separate the chlorine and sodium molecules and then reintroduces them into the pool (cell usually lasts about 5 years). An advantage of saltwater swimming pools is the lowered use of chemicals. People who own saltwater pools don't have to store and handle toxic chemicals on a regular basis. This means that a saltwater swimming pool is more environmentally safe. You also won't have to suffer the odor of chlorine anymore. The levels of chlorine in the water are low while still being effective. This also means that you won't have to deal with dry skin, green hair, and fading swimming suits. Algae does not grow as rapidly in saltwater pools because of the low stabilizer levels. Stabilizer is a chemical added to offset the harshness of chlorine. Because saltwater pools don't have the chemical chlorine, a stabilizer isn't required.

### **Salt Pool Facts:**

- Salt pools are still sanitized using chlorine. A salt chlorine generator turns salt into chlorine to sanitize the pool water. Chlorine produced from a salt chlorine generator is less harsh on skin and eyes and has no chlorine odors. Salt pool water is known for its silky-smooth feeling.
- The salt in a salt pool has a low concentration of salt at 2,800 to 3,500 ppm. When the salt level or TDS gets 1500 ppm over normal levels, water should be replaced (i.e. to reduce your TDS by 1/3, reduce the pool volume by 1/3). To avoid cloudy water and scaling, the TDS is recommended to be capped at 3000 PPM.

### **How to Test for High TDS**

To check if you have a problem with high TDS in your pool (>1500 ppm) you can test the water with an TDS test meter (very accurate) or a TDS test strip (less accurate). Saltwater pools can also require stabilizer (cyanuric acid) to help stop the sun's UV rays from breaking down free chlorine in the pool. Usual levels are 20 - 50 ppm. They also require the pH to be kept between 7.2 and 7.8 with the chlorine being more effective if the pH is kept closer to 7.2. As chlorine is generated, pH will rise causing the chlorine to be less effective. Many systems with chemistry automation can sense the rising pH and automatically introduce either CO<sub>2</sub> or hydrochloric acid in order to bring the pH back to the target level. Saltwater chlorination produces an excess of hydroxyl ions whilst releasing chlorine from salt, which makes the pool alkaline. This requires the frequent addition of Hydrochloric Acid (HCl) to neutralize the alkalinity and convert the sodium hydroxide back into Sodium Chloride, which can be split by electrolysis again. Calcium and other alkali precipitate buildup will occur naturally on the cathode plate, and sometimes in the pool itself as "scaling". Regular maintenance of the cell is necessary; failure to do so will reduce the effectiveness of the cell. Certain designs of saline chlorinators use a "reverse-polarity" design that will regularly switch the roles of the two electrodes between anode and cathode, causing this calcium buildup to dissolve off the accumulating electrode. Such systems reduce, but do not eliminate, the need to clean the electrolytic cell and the occurrence of calcium scale in the water. It is very important that you still regularly balance the water in your salt pool. Just like a regular chlorine pool, a salt pool should maintain proper pH, Total Alkalinity, Calcium Hardness and Stabilizer levels in order to prevent scale formations on your salt pool system and maximize sanitizing effectiveness. Test pool water on a weekly basis and use standard pool chemical procedures to adjust the levels.

- All pools, including saltwater pools, need to be shocked regularly with pool shock. During pool season, when the pool is used the most, shock your salt pool on a weekly basis.
- Saltwater pools are initially more costly to maintain than regular chlorine pools. You must factor in the cost of the salt chlorine generator, pool salt purchases, and replacements of the salt cell (every five years, on average). However, saltwater pool maintenance is far easier, and the pool water is softer and does not irritate swimmers' eyes or skin.