

What's important to consider for salt chlorine generators with a vinyl pool liner

Over the past few years, more and more salt chlorine generators have been installed in America's backyards. They are comfortable because the salt chlorine generator takes care of providing chlorine. A common misunderstanding of homeowners of salt water pools is, that they are chlorine free pool. But salt pools also use chlorine as a sanitizing agent. The only difference is that you don't add chlorine in form of tablets or granules to the pool, because the salt chlorine generators constantly generates unstabilized chlorine from the salt.

It is important to know that this is a process which not only results in a constant **chlorine** output, but can also results in a higher pH level. A high **pH level** in the pool reduces the sanitizing activity of chlorine, causes cloudy water and scaling.

Chlorine

The setting of the output level of your salt chlorine generator is critical for maintaining proper chlorine levels. Ideally, the output should be adjusted by the chlorine demand. Chlorine demand is defined by the amount of free chlorine consumed by contaminants in water. This demand is originated from different sources of contaminants, either inorganic (source water, rain, fertilizers, air pollutants etc.) and/or organic material (bather waste, dust, dirt, pollen, bugs etc.). The output itself is influenced by generator/pump run-time, size of cell, condition of cell and water attributes.

Depending on the output level of your salt chlorine generator and the actual chlorine demand, it has a different influence on your water chemistry levels. If your chlorine demand is higher than the chlorine output, the free chlorine level will be too low which can promote algae growth. If your chlorine demand is lower than your chlorine output, you will increase the free chlorine level over time which could harm the liner. UV light from the sun has a high impact on the amount of free chlorine in the water, because the generated chlorine itself is unstabilized. Which means it diminishes rapidly once exposed to UV. A stabilizer can be added to maintain chlorine levels.

No matter the of source of chlorine, you want to avoid localized accumulation. Common accumulation areas are at the floor and the deep end corners of the pool. Accumulation in these areas can create much higher chlorine levels than what is measured in the rest of the pool. It is important to have good water circulation and conduct regular brushing to avoid dead spots, to prevent chlorine settling to the bottom of the pool.

Random section of a pool



Settled chlorine > "Micro pool" with different pH and chlorine level

Salt quality and stains

Stains can be caused either by organic or inorganic material. Organic stains can be caused by materials such as debris from plants, insects etc. Inorganic stains can be caused by metals such as Iron, Calcium, Barium, Manganese and Copper. Metals can be introduced by several sources into the water. These sources can be such things as fill water, water chemistry products and equipment.

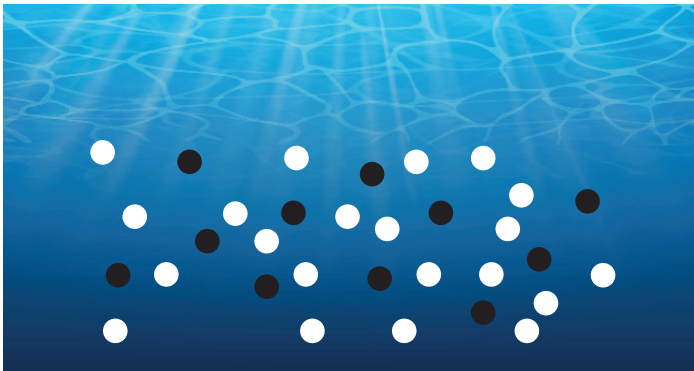
A more detailed explanation is given in a separate white paper called "Stains on vinyl liner".

For Salt water pools, you must be aware of one additional contamination source - salt itself. Depending on the salt quality and purity, you can add both organic and inorganic impurities to your water. Those impurities are the same as listed above which can cause stains in a pool.

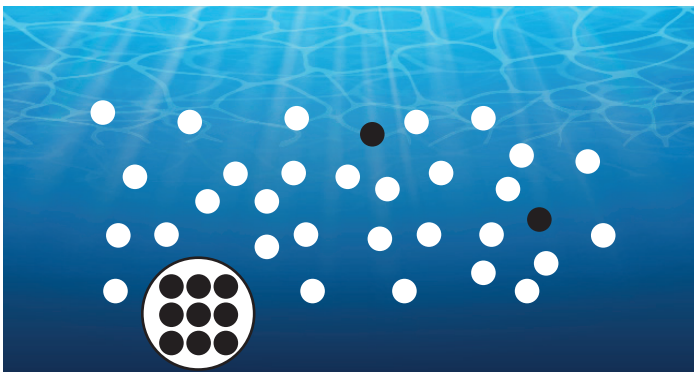
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If the water is balanced and not over-saturated with minerals or metals, they are dissolved in the water and they are not visible. The metals and the water are "mixed together". As described above, the process of a salt chlorine generator can contribute to higher pH-levels. Higher pH levels (over 8.0) can cause over-saturation problems which can cause metals to come out of solution. The solids and the liquid are "separating from each other". The metals are no longer dissolved and they can scale/stain/build up on the liner.

Metals dissolved



Metals out of solution



Stain

Tip: A sequestering/chelating agent can help to keep metals from separating/precipitating out of the water.

As mentioned above, both salt and a traditional chlorine pools always require good maintenance practices. One of the best practices is to perform a regular water chemistry check and ensure proper water chemistry parameters are maintained:

