

How Does Culator® Eliminate Metal Staining Problems?

Joseph P. Laurino, PhD, MBA

Culator® Metal Eliminator and Stain Preventer is a technologically advanced product designed to rapidly eliminate metals from water. Culator takes conventional chelating or sequestering agent groups and binds them to a unique, insoluble and non-toxic polymer backbone. This allows metals to be physically eliminated from pool, spa or fountain water, rather than simply sequestering metals in the water. The chemistry to produce these polymers was developed over 25 years of scientific research.

Conventional sequestering agents surround the metal ions and slow down the oxidation and precipitation of metal oxides onto the pool surface. Unfortunately, sequestering agents are unable to remove significant amounts of metals through a pool's filtration system. Furthermore, all sequestering agents break down over time and need to be constantly added to the pool water. Many sequestering agents are also phosphate-based.

Culator Metal Eliminator and Stain Preventer is the world's only true metal eliminator. Developed for the Environmental Protection Agency's (EPA) Superfund Program, these polymers are the only compounds that do not dissolve in water; they are also the only such compounds that rapidly bind and eliminate metals. Metals are bound to the polymer and trapped in the Culator cloth bag (placed in a pool skimmer basket or pump basket with protective GatorEgg) and not left floating in the pool water. After use, the bag is thrown away and the metals permanently eliminated.

Culator Metal Eliminator and Stain Preventer is non-toxic and is totally compatible with all sequestering agents. Culator is also compatible with biguanides and all mineral-based water purification systems that release small amounts of minerals (such as copper, silver and zinc) into the pool water. Culator Metal Eliminator and Stain Preventer is effective over a very broad pH range (pH 4 to 14), and works in fresh water, excessively hard water, and salt water.

The amount of Culator Metal Eliminator and Stain Preventer required to eliminate

continued ►

metal staining problems is dependent upon the level of metal in the pool. As with all pool chemistry, testing the water is the only way to know the amount of metal in the pool. Use a metal test kit that measures *total metal levels* (such as the EZ-DX® Digital Pool Water Test Kit), not just “free” or non-sequestered metals. This is especially important if sequestering agents have been added to pool water. One CuLator PowerPak 1.0 will eliminate 1.0 ppm total metals from a 20,000 gallon pool, while one CuLator Ultra PowerPak 4.0 will eliminate 4.0 total metals from a 20,000 gallon pool.

The best way to control metal levels in pool water and avoid metal staining is to take a proactive approach. All municipal and well water used to fill pools contains some metal, and so it is impossible to avoid introducing metals into pool water. Other sources metal contamination include stone water features, pool decking materials, plaster pool surfaces, and many algaecides. CuLator Metal Eliminator and Stain Preventer is the only effective way to eliminate metals from the water and prevent metal staining from occurring. For more information on the sources of metal in pool water, see our Technical Bulletin: *What Causes Metal Stains in Pools?*

While CuLator is not able to remove existing metal stains from pool surfaces, it is a necessary final and important step in all stain removal processes. To learn more about stain removal and pool surface remediation, see our Technical Bulletin: *How Are Metal Stains in Pools Removed?*

For additional information, visit www.culator.com.