



Contact: Keith Boulais
Premier Materials Technology
(763) 785-1411
keith@premiermaterials.com

New study: KRIA Ionizer with EcoSOAR™ technology destroys harmful cyanobacteria

Superoxide and cavitation by the KRIA Ionizer reduce levels of cyanobacteria, chlorophyll and microcystin that are impairing U.S. waterways

MINNEAPOLIS (May 4, 2016) – Every year, harmful algal blooms and spikes in cyanobacteria close beaches and lakes, and impair waterways. A recent study, published in the *Bulletin of Environmental Contamination and Toxicology*, shows the KRIA Ionizer water treatment system can reduce the cyanobacteria *Microcystis aeruginosa*, also called blue-green algae, by up to 80 percent in five minutes. The bacteria’s harmful byproduct, microcystin toxin, was reduced up to 92 percent in five minutes.

The EcoSOAR™ technology of the KRIA Ionizer creates superoxide and injects it into the water column through microbubbles. The superoxide breaks down organic matter into its elements, and can travel through the water column up to a half-mile radius and 330 feet deep.

The study was led by Victor F. Medina at U.S. Army Corps’ Engineer Research and Development Center. It compared the KRIA Ionizer’s effect on water in 50-gallon reactors spiked with water samples from Lake Erie in Ohio and Clear Lake in California, compared to a control. The study included testing the effect of the KRIA’s cavitation by microbubble application, and cavitation plus superoxide.

“Harmful algal blooms are a growing problem and affect all 50 states. The data in this study shows that the KRIA Ionizer can effectively remove the cyanobacteria causing these issues without also relying on chemicals, to help return water to a healthy and natural state,” said Keith Boulais, CEO of Premier Materials Technology, which distributes the machine.

Key findings and insights from the study include:

- Cavitation and superoxide together were more effective in reducing cyanobacteria, chlorophyll and microcystin levels than cavitation alone.
- Cyanobacteria was reduced up to 80 percent in five minutes, and its byproduct, the microcystin toxin, was reduced up to 92 percent in five minutes.
- Concentrations of chlorophyll dropped 80 percent over 40 minutes in water treated with superoxide. The level increased in the control.
- The study confirmed that the KRIA Ionizer would be an effective water treatment for shorelines and bays, where harmful algae blooms are most common.

To learn more about the KRIA Ionizer and EcoSOAR technology, visit www.premierwatertreatment.com.

About Premier Materials Technology

Premier Materials Technology is a leading supplier of quality marine products, including the KRIA Ionizer with EcoSOAR™ technology superoxide water treatment system. The company's full-time staff has more than 45 years of marine experience, with expertise in environmentally friendly marine products. For more information about the KRIA Ionizer and EcoSOAR, visit www.premierwatertreatment.com.