

## **Maintaining Safe and Healthy Pools and Spas: Minimizing Organic Load is the Key**

**By: Vance Fiegel, Co-Founder, Chief Science & Technology Officer**

The build up of organic contamination in swimming pools and spas has significant effects on water quality, air quality and chemical usage, all of which makes maintaining a healthy and safe water environment very difficult. As organic contaminants are introduced into the pool water by swimmers and other sources, organic contamination accumulates in the filter media thereby continually increasing the overall organic load of the pool. This accumulation of surface-bound organic contamination results in increased backwashing frequency, reduced water quality, increased chemical and water usage, and increased production of disinfection byproducts (DBP). Swimmers are exposed to these toxic DBP by being in contact with the water and by inhalation from the surrounding air and it is now well established that many DBP have adverse health effects on swimmers. The agitated water found in spas and pools with water features can actually increase the accumulation of DBP in the air.

Another health issue is on the rise in the pool and spa industry as well. There have been numerous reports of Legionella outbreaks over the past year, primarily in commercial spas and hot tubs. Legionella (specifically, Legionella pneumophila) is an opportunistic bacterium that primarily affects people with weakened immune systems (older adults, smokers, immunocompromised patients) causing Legionnaire's disease, a severe and potentially deadly type of pneumonia. Legionella is commonly found in water systems and when Legionella is present in high levels, it can enter a person's lungs by being aspirated (inhaled) into the lungs in tiny water droplets. The production of tiny water droplets (aerosols) is exactly what occurs in spas with water/air jets and pools with water features. Legionella also thrives in water with temperatures between 68 and 113° F (recreational water temperatures!) and has been shown to exhibit resistance to chlorine disinfection. It is now known that one of the reasons Legionella is resistant to chlorine is its ability to hide within the organic contamination that exists on the surfaces of water systems. This allows the Legionella to continually exist in the pool system or spa, waiting for an opportunity to populate the water and potentially cause an outbreak of Legionnaire's.

The organic load in swimming pools and spas is the root cause of many problems. Reducing the levels of organic contamination in the filtration media of pools and spas can drastically impact the organic load of the system. Combining the continual use of PoolMoss® Pro or SpaMoss® Pro with the periodic cleaning of the filter media and/or spa with BreakAway® Flush will keep the organic load in check and thereby help maintain a healthy water environment. Whether it's a backyard pool/spa or a large commercial natatorium, your clients and their guests deserve to have the healthiest water experience possible.

# Next Events:



Vance Fiegel will be presenting:  
“Surface-bound Organic Contamination: Impact on Disinfection Byproducts and Legionella” at 8:30am on Saturday, January 25<sup>th</sup>, 2020 in Houston, TX



Vance Fiegel, Co-Founder and Chief Science & Technology Officer will be speaking at the Western Pool and Spa Show being held in Long Beach, CA on March 12-14, 2020. His presentation is entitled “Surface-bound Organic Contamination: Impact on Disinfection Byproducts and Legionella” and will be held in Room S7 from 3-4pm on Thursday, March 12<sup>th</sup>.



Vance Fiegel, Co-Founder & Chief Scientific Officer and Charity Whitman, Commercial Sales will be exhibiting at the United Aqua Group convention in Phoenix, AZ Feb 16-21, 2020