

Imagine if city water were made safe from Mother Nature.

PURIFY | PROTECT | ENHANCE

Customer success story.

End-use Customer: Orange Water and Sewer Authority, Carrboro, N.C.
Product: AquaNuchar® chemically-activated powdered carbon

End-use Application: Municipal water treatment

Ingevity: Purify | Protect | Enhance

Ingevity provides specialty chemicals and high-performance carbon materials and technologies that purify, protect and enhance the world around us. Through a team of talented and experienced people, Ingevity develops, manufactures and brings to market products and processes that help customers solve complex problems. These products are used in a variety of demanding applications, including asphalt paving, oil exploration and production, agrochemicals, adhesives, lubricants, publication inks and automotive components that reduce gasoline vapor emissions. Headquartered in North Charleston, South Carolina, Ingevity operates from 25 locations around the world and employs approximately 1,600 people. The company is traded on the New York Stock Exchange (NYSE: NGVT). For more information visit www.ingevity.com.

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AquaNuchar is a wood-based activated carbon with an almost 100-year history of use in water purification. Because of its structure, purity and renewable nature, wood is a superior carbon source for municipal water treatment needs. This means that customers have a reliable solution when they need to control purification, taste and odor challenges quickly and effectively. That's The Ingevity Effect.

Problem

Total organic carbon (TOC) naturally occurs in untreated water and must be purified by drinking water treatment processes in order to make the water suitable for drinking as determined by the U.S. Environmental Protection Agency (EPA). Naturally-occurring TOC levels are the main precursor for EPA-regulated byproducts that form during the water disinfection process. Utility providers like the award-winning Orange Water and Sewer Authority (OWASA) in Carrboro, N.C., are no stranger to such purification and treatment challenges.

"Not only does AquaNuchar provide the adsorption needed to remove TOC in the water treatment process, its unique adsorptive capacity also enables water utilities to dose less AquaNuchar than would be required with other carbons," explained Tim Byrne, senior applications engineer at Ingevity. "Ingevity helps water utilities meet and exceed the EPA's TOC removal requirements, save money, and ultimately keep their customers happy."

Solution

The effectiveness of AquaNuchar wood-based, powdered activated carbon compared to coal-based alternatives has been known to municipalities across the U.S., especially OWASA. OWASA has a strong history of providing high quality water, testing their drinking water more than 40,000 times each year to ensure its quality and compliance with federal and state drinking standards. The actual carbon performance in OWASA's process exceeds TOC removal as predicted by lab-scale jar testing, all made possible with the incorporation of AquaNuchar.

Value Components

- The large surface area and extensive pore structure of AquaNuchar carbon enables the adsorption of algal toxins and other dissolved organic compounds.
- AquaNuchar's higher pore volume and surface area mean treated water has greater purity in a shorter amount of time while using less carbon.
- AquaNuchar can potentially offset the capital-intensive installation of granular carbon beds.

