

MicrOx™ - A novel solution for micropollutant-free water

Our unique and customizable solution for effective removal of persistent organic micropollutants from municipal and industrial wastewater.

Micropollutant-free water

Micropollutants are organic contaminants that raise toxicological concerns for the environment and the human health. They originate for instance from industrial processes, such as the production of pharmaceuticals and pesticides, but also from the daily use medicines, household chemicals, hygiene and cosmetic products.

Many of these micropollutants are difficult to break down and remove with traditional water treatment technologies; that's why they are also called persistent organics pollutants.

The European Commission has adopted the Water Framework Directive in 2000 and is continuously acknowledging emerging issues around micropollutants in water.



Unique partnership

Nouryon and Van Remmen UV Technology have entered a unique partnership; combining the agility of an entrepreneurial business together with a global specialty chemicals leader in highly demanding chemistry.

How it works - AOP

Our solution for micropollutant-free water is an Advanced Oxidation Process (AOP). The Advanox™ system, from Van Remmen UV Technology, delivers UV-C light that transforms Nouryon's MicrOx™ hydrogen peroxide into powerful hydroxyl radicals and initiates the AOP.

The technology is fully adaptable and scalable to our customers' specific micropollutant challenges and can reach outstanding results in terms of removal efficiency.



High efficiency

Our AOP technology has demonstrated high efficiency in the removal of micropollutants (> 90%) in a successful commercial scale trial at a municipal wastewater treatment plant. This technology is non-selective and removes a wide array of organic persistent pollutants in milliseconds. The Advanox™ UV-C reactor is a patented and customized UV-system.

Free from waste

The AOP is a clean treatment technology: no toxic bromate, NDMA* by-products or hazardous sludge is produced and no regeneration treatment is needed.

A sustainable solution

Demonstrated to reduce water toxicity the solution enables the reuse of treated water as well as the return of clean water back to the environment, contributing to a sustainable circular economy.

This MicrOx™-Advanox™ technology is a unique one-stop solution; efficient, safe and easy to operate. Supported by our application know-how and optimized supply chain, it is also available as a plug-and-play containerized solution under leasing agreement.



Did you know that:



Hydrogen peroxide was first discovered by French chemist Louis Jacques Thénard in 1818.



To discourage predators, the bombardier beetle produces hydrogen peroxide as a part of its defense system.



Hydrogen peroxide is formed by enzymes in nature, both in animals and in plants.



Hydrogen peroxide is an essential ingredient in multiple applications, from the deepest of mines to outer space.

*N-Nitrosodimethylamine

