Micropollutants removal from wastewater

Nouryon
MicrOx™

A novel solution for pharmaceutical-free water

Micropollutants, such as medicine and hormones, accumulate in our water systems, which has become an emerging global issue. Our novel solution efficiently removes pharmaceuticals from wastewater and clean water can be discharged back to the environment.

Global issue

As the world population rises the demand for pharmaceutical treatments also increases. Unfortunately, as a consequence, the pollution resulting from discarded pharmaceuticals has increased. These micropollutants mainly reach the environment through the discharge of effluent from municipal wastewater treatment plants.

Governmental focus

The European Commission (EC) has adopted the Water Framework Directive WFD, 2000/60/EC) in 2000. The European Union has acknowledged the emerging issues around pharmaceutical-free water and in March 2019 they announced that there will be more focus on a strategic approach to control pharmaceuticals in the environment.

Advanox™ and MicrOx™ remove micropollutants!

Wastewater is discharged to the sewers from households, hospitals and industrial users

Traditional wastewater treatment does not remove persistent micropollutants such as pharmaceuticals

Advanox™ UV-C light activates MicrOx™ hydrogen peroxide in a reactor and removes these pharmaceuticals from the wastewater stream

Treated water is discharged into the environment

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The mechanism - AOP - where the magic happens!

The Advanox™ system delivers UV-C light that transforms the MicrOx™ hydrogen peroxide into hydroxyl radicals.

These radicals are powerful molecules and initiate an Advanced Oxidation Process (AOP). Depending on the dosage of hydrogen peroxide and UV-C light, this process removes up to and above 90% of the pharmaceutical residue.

> ...potential surplus of hydrogen peroxide is decomposed into only water and oxygen...

The benefits

- Removes pharmaceuticals effectively
- Easy and safe to operate and maintain
- Scalable, flexible and modular design
- Cost competitive
- Eco-friendly - potential surplus of hydrogen peroxide is decomposed into only water and oxygen in a specialized catalytic bed

Unique partnership

In partnership with VAN REMMEN UV Technology

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 and expert in highly demanding chemistry. Our combined application know-how, optimized supply chain and global logistics enables a unique one-stop solution for our other customers.

We share our profound application experience and product knowledge with our customers to ensure efficient and easy operations. We make sure MicrOx™ hydrogen peroxide is handled in a safe and user-friendly manner.

Our partnership can ensure true customer focus and deliver a robust, efficient and sustainable technology for pharmaceutical-free water.

We are here to help!

For more information on this exciting solution, contact us at **microx@nouryon.com**.

We look forward to hearing from you!

Nouryon MicrOx™

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Nouryon is a global, specialty chemicals leader. Markets and consumers worldwide rely on our essential solutions to manufacture everyday products, such as personal care, cleaning goods, paints and coatings, agriculture and food, pharmaceuticals, and building products. Furthermore, the dedication of more than 9,700 employees with a shared commitment to our customers, business growth, safety, sustainability and innovation has resulted in a consistently strong financial performance. We operate in over 80 countries around the world with a portfolio of industry-leading brands. Visit our website and follow us @Nouryon and on LinkedIn.

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