



OZONE

**OZONIA**

Treatment of  
Micropollutants

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## MICROPOLLUTANTS: A MAJOR ISSUE

### Why is there a requirement for new processes to treat municipal waste water?

Urban waste waters are increasingly contaminated with organic substances such as biocides, endocrine disrupting compounds (EDCs), personal care products (PCPs) and pharmaceutical substances. These contaminants, with their known or potential harmfulness for aquatic ecosystems and human health, have become a major issue for the Water Utilities.

In the coming years, legislation in Europe and around the world will be tightened with regard to micropollutants in municipal waste water and to the discharge of organic substances into surface waters. Current treatment technologies in existing waste-water plants struggle to eliminate micropollutants or to limit their concentrations sufficiently to comply with the thresholds in new regulations. Thus, additional treatment processes will be required.

## OxEM™: ADAPTED SOLUTIONS IN ANY CIRCUMSTANCES

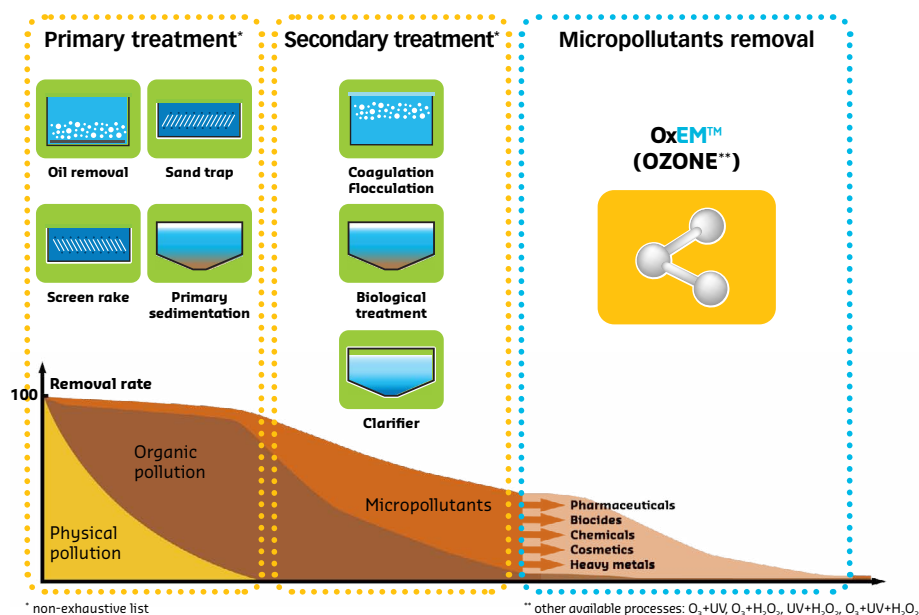
Drawing on our experience in the field of municipal waste-water treatment using oxidation technologies, OZONIA can offer with OxEM™ the most powerful solutions available on the market for the elimination of micropollutants in urban waste-water.

The OxEM™ solutions based on ozone have been proven to be highly effective in removing persistent organics and in breaking up a wide variety of compounds. Additionally, these treatments have several welcome side effects including disinfection, water decolourisation and odours reduction. As the water treatment should always be adapted to the variability of the contamination, OZONIA offers with OxEM™ a wide range of advanced oxidation solutions ( $O_3$ ,  $O_3+UV$ ,  $O_3+H_2O_2$ ,  $UV+H_2O_2$ ,  $O_3+UV+H_2O_2$ ), allowing to remove any kind of undesirable trace compounds.

Improved municipal waste-water discharges, and consequently, surface water quality can be achieved by the incorporation of an additional purification stage.

## TYPICAL URBAN WASTEWATER TREATMENT LINE

Integration of the ozonation system as an additional treatment step inside the WWTP



## THE ULTIMATE SOLUTION FOR THE REMOVAL OF MICROPOLLUTANTS





## SOPHIA ANTIPOLIS (FRANCE)

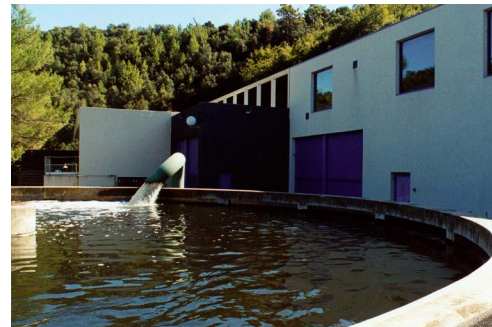
**In the summer of 2012, the Sophia Antipolis Wastewater Treatment Plant became the first French sewage plant to treat micropollutants. This plant not only preserves its direct environment, but also protects the drinking water resource of Antibes.**

When the municipality resolved to enlarge and improve its sewage plant, it has been decided to upgrade the treatment line by including an ozone stage. Using an ozone generator, the plant now benefits from a high-performance device combining flexibility and ease-of-use. Located between the biological treatment stage and the

biofiltration stage, the ozonation treatment step ideally fits in the existing process train.

OZONIA offered a solution including a CFV-10 generator, allowing the sewage plant to adapt the ozone system to current and future requirements. In 2030, a population equivalent of 50 000 is expected (840 m<sup>3</sup>/hour).

As the first micropollutant treatment reference in France, the municipality made a forward-looking investment perfectly framed for its sustainable development objectives.



## DÜBENDORF (SWITZERLAND)

**The "Neugut" water treatment plant in Dübendorf (Zürich) was one of the first Swiss treatment plants on which tests were made for micropollutants elimination.**

OZONIA was chosen to supply the full-scale plant that will be build for spring 2013. This sewage plant will be the first to comply with the new Swiss regulation on trace compounds treatment.

The Neugut facilities will be designed to treat up to 1 455 m<sup>3</sup>/h, and will be supplied by OZONIA as a turnkey treatment stage.

The system will include ozone generation, dome diffusion, vent ozone destruction and instrumentation.

With this innovative and forward-looking building willing to protect the receiving environment, a key cleaning-compound will be added to the "Neugut" Water Treatment Plant.

The city of Dübendorf awarded the project to OZONIA based on its extensive know-how, experience and reliability. The Neugut sewage plant will be used as a foundation for future projects in Switzerland.



## MORE ABOUT OZONIA

With over 35 years experience and a unique expertise in the area of water treatment and industrial applications using ozone, OZONIA is your ideal partner for all types of pilot studies or plants.

Our Research and Development Centre is constantly working to improve our technical expertises in terms of energy efficiency, higher ozone production rates, state-of-the-art technologies and user friendly equipment.

OZONIA has the resources, the experience and the expertise to provide comprehensive, tailored solutions to any customers' requirements. These include: highly-qualified engineers in all major disciplines, an in-house manufacturing facility, a knowledgeable commissioning and service staff and a responsive Customer Care team for after-sales support.

OZONIA has installed thousands of ozone generators worldwide in a broad range of applications. As the world leader in ozone and UV water treatment, our satisfied customers show our commitment to quality, reliability and technical superiority.

## OZONE ADVANTAGES

- > High oxidation potential
- > Removal of micropollutants
- > General treatment improvement
- > Low operating costs
- > User-friendly
- > Environmentally friendly

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