

New Whitepaper Available on Mitigating Surfactants In Wastewater

Unintended Consequences Of Water Conservation And The Pandemic

HAWTHORNE, CA, USA, March 6, 2024 /EINPresswire.com/ -- Moleaer Inc., developer of industrial-scale [nanobubble technology](#) that delivers extraordinary improvements in chemical-free water treatment, has published a new white paper, [Surfactants](#) In Wastewater: Unintended Consequences Of Water Conservation And The Pandemic.

This 11-page technical paper, illustrated to make key points more accessible, tackles problems caused by increased cleaning and antimicrobial products made with surfactants—such as quaternary ammonium compounds (QACs or quats) or tensides—emerging in wastewater since the pandemic, how they are exacerbated by increasingly stringent water conservation measures, unpredictable weather and droughts, and one groundbreaking technology that is proving vastly effective in combating these issues.

The changing climate, including increased drought conditions and often unpredictable precipitation causing flooding, has made it increasingly difficult to maintain wastewater treatment efficiency. During times of drought, concentrations of contaminants and pollutants such as surfactants are significantly higher, causing inhibitory effects on treatment and biology. Conversely, erratic rainfall patterns



MOLEAER
ADVANCING NANOBUBBLE TECHNOLOGY

SURFACTANTS IN WASTEWATER: UNINTENDED CONSEQUENCES OF WATER CONSERVATION AND THE PANDEMIC

Surfactant White Paper

How Nanobubbles Work

- 1 mm Bubble
Nanobubbles have an enormous interfacial surface area
- Neutrally buoyant, stay suspended in wastewater for long periods of time
Strong negative charge, prevents them from coalescing
- OIL
NB
Surfactants and FOG coat everything in wastewater, including nanobubbles
- Surfactants accumulate on the large surface area of nanobubbles
NB
Nanobubbles have 10,000x higher internal pressure than a 1 mm bubble
- Nanobubbles destabilize and release high explosive pressure
This breaks apart and changes the properties of surfactants & FOG

introduce variability in wastewater flows, making it difficult for treatment plants to predict and adjust their processes accordingly. These changes underscore the urgent need for resilient [wastewater management](#) strategies to mitigate the impacts on wastewater concentrations and safeguard public health and the environment.

The paper begins with an overview of what surfactants are, how they end up in wastewater, how they're measured in water flows, and their negative impacts on wastewater treatment processes. It goes on to track trends in water conservation and surfactant usage, especially since the pandemic, and provides an overview of current methods to reduce the detrimental effects of surfactants on wastewater.

The last third of the paper introduces nanobubble technology as a robust, chemical-free solution to the plethora of problems caused by surfactants in wastewater. This section provides the science behind nanobubbles and how they are being used to help wastewater treatment plants, both municipal and industrial, increase treatment efficiency and capacity with lower energy and chemical footprint.

The References section offers a helpful selection of sources for those seeking further insight into the science behind nanobubble technology.

Free copies of this white paper are available from Moleaer at <https://hubs.la/Q02mtvB30>

Moleaer Inc. helps businesses and utilities design and implement cutting-edge solutions powered by nanobubble technology. Their flexible, scalable systems solve common, complex wastewater treatment challenges through the unique properties of nanobubbles due to their size. The company offers custom-tailored solutions based on industry, system size, and other factors, featuring reliable, high-quality products and responsive support services. Moleaer currently counts 650+ million gallons of water treated per day, with 2500+ generators in operation in 55 countries. Learn more at [Moleaer.com](https://moleaer.com).

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