



# ODOR CONTROL

USING AQUACYCL'S BIOLOGICAL  
MICRO-AERATION UNIT TO

**ELIMINATE SULFIDE**



# ELIMINATE HYDROGEN SULFIDE EMISSIONS



## Improve safety

The Micro-aeration system reduces safety risks from hydrogen sulfide, a toxic and severe health risk.



## Lower costs

Lower capital investment and operating cost than alternative technological options.



## Reduce corrosion

Hydrogen sulfide is highly corrosive and can result in costly repairs and shortened life of physical equipment. It can also cause problems with the downstream utility.



## Eliminate odors

Normal operations can create odor, which negatively impacts the surrounding community.



## Chemical-free

By eliminating chemicals for sulfur management, customers benefit from reduced costs, increased safety and environmental benefit.



## Reduce energy consumption

The system reduces energy consumption compared to traditional systems by aerating only at the gas / liquid interface rather than into the liquid.



# HOW IT WORKS

Normal operations can create conditions which promote hydrogen sulfide formation, which is highly corrosive, a severe health risk, and creates odor problems. Aquacycl brought our knowledge of biologically based wastewater treatment systems to help solve this challenge, without chemicals or membranes.

## Aquacycl's Micro-aeration unit

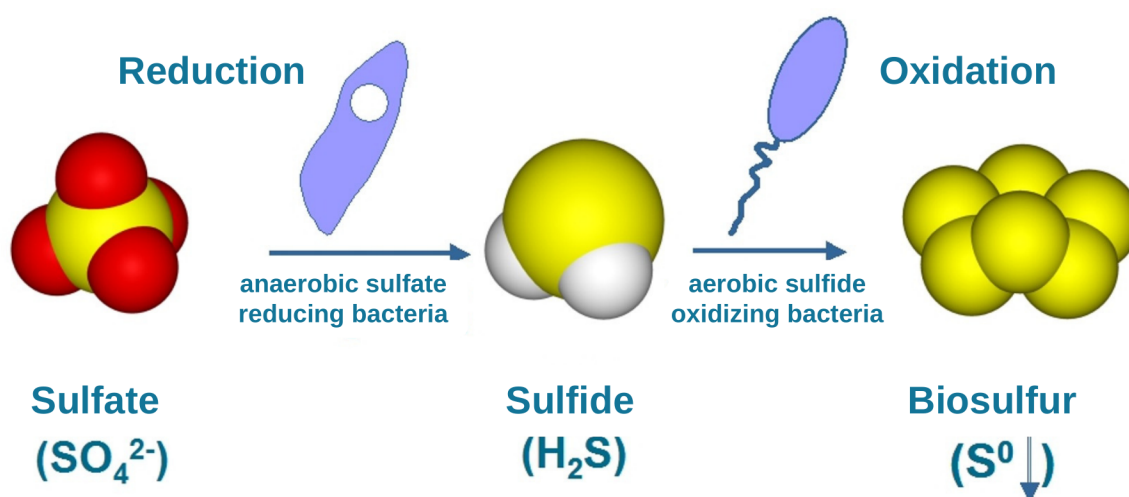
The patented Micro-aeration technology is a sustainable treatment that employs a biological process to remove sulfides and sulfates present in the wastewater and the head space in the wastewater tanks.

The system converts sulfates (liquid) and sulfides (gas) into elemental sulfur (solid) by maintaining anoxic conditions in the water column and oxic conditions at the liquid surface by only aerating above the water (the air/liquid) interface. The solid sulfur is captured in the biomass and removed periodically as a part of a service contract.

The Micro-aeration systems are designed to float on the surface of the water, promoting growth of the sulfur-oxidizing biomass for sulfur capture, while allowing for variable operating conditions.

Aquacycl Micro-aeration units have shown effective total sulfur removal across multiple applications, including brewery, beverage and sewage applications.

They can be retrofitted into any existing tank or installed into new systems, providing a cost-effective solution to a challenging problem.



# CASE STUDY



99%

reduction in  
H<sub>2</sub>S emissions

30%

reduction in  
COD

0

hours downtime  
for installation

A global consumer packaged goods (CPG) company had an existing treatment system and was looking to implement new technologies that could reduce odor and eliminate hydrogen sulfide (H<sub>2</sub>S) gas. Incoming wastewater was held in an underground equalization basin before discharge to sewer. They were aerating the basin, but still had H<sub>2</sub>S forming due to the conditions in the tank.

Aquacycl installed a Micro-aeration unit to eliminate sulfide emissions from the 75,000 gallon underground basin. The installation was completed with zero hours of production downtime, and consistently resulted in nearly complete eliminate of H<sub>2</sub>S emissions - less than 0.4 ppm H<sub>2</sub>S leaving the basin at any given time.



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