

Molecular Kinetics

The Company's products greatly accelerate naturally occurring biomolecular reactions at a fraction of the cost of conventional capital intensive equipment and systems. Products are liquid formulations containing an optimised array of fermentation-based proteins, micronutrients and highly specialised surfactant chemistry. The Company's proprietary formulation facilitates the increase in oxygen uptake, metabolic rates and efficiency of indigenous microorganisms. This accelerates the biological transformation of complex organic contaminants into neutral end materials such as carbon dioxide and water.

Wastewater Benefits

The **next** series of products optimise municipal and industrial wastewater treatment process performance to:

- Increase dissolved oxygen
- Reduce energy consumption
- Reduce BOD, TSS and FOG
- Reduce sludge volume and disposal costs
- Reduce or eliminate odours
- Reduce chemical consumption
- Reduce maintenance
- Extend equipment life
- Increase flow throughput and usable capacity
- Stabilise process control

Product Features

When added to the aeration tank of a **wastewater treatment plant**, reduces the power required to achieve the desired dissolved oxygen level in the tank and reduces the amount of sludge produced by the process:

- Reduction in Aeration Power 25%
- Reduction in Sludge Production 30%

Can also be used to increase the capacity and/or treatment level of an existing aeration system by increasing the amount of oxygen available for BOD reduction. Increases of 30% more throughput are typical. When added to sewer lines, will prevent grease buildup in clean lines and/or eliminate grease from clogged sewer lines.

The grease is rapidly metabolised by the existing bacteria in the sewer and not just solubilised and moved downstream to a pump station or sewage treatment plant.

Overview

With regard to uncoupling agents and the treatment of water, we believe that this is the only technology in the marketplace that utilises a safe, biological technology that can significantly alter and improve wastewater processes and dramatically affect biofilm accumulation for such applications as membrane filtration for water, for hydrogen sulfide control in sewers, and the rapid breakdown of FOG (Fats Oils Grease) Yes, there are other “uncoupling agents” available, but from the standpoint of being practical, not so much, because virtually all of them have toxicity and persistence (or biodegradability) issues.

Of course, results can vary from one to another treatment facility due to differences in plant design, and operating conditions. However, we consistently see 30% reductions in sludge production, and sludge handling/disposal issues are one of the biggest issues that treatment plants have to deal with; both from an equipment/manpower standpoint and a disposal/cost standpoint. Other features, such as increased dissolved oxygen, reduced effluent nitrogen and phosphorus levels, improved sludge settling and greater throughput are additional benefits that can be achieved without additional capital expenditures.

We can solve many problems with a peristaltic pump and a drum of our formulation, rather than expensive plant design and capital equipment. Attitudes to capital spend are changing due to governmental agency’s lack of funds and generally reduced budgets. There is a need for low-cost solutions for municipal and industrial wastewater treatment facilities and the [next](#) formulation can fulfil that need.

You will now have quite a lot of information and a much better understanding of the process. We can provide more information if you have an interest in looking further at the opportunities of working with us:

We believe that a cogent and compelling case can be presented to officials that find themselves in need of cost-effective solutions and have an open mind towards innovative processes. The important thing is that they don’t have to spend years in planning and engineering studies and huge investments in capital equipment. They can invest in three months supply of the formulation costs to determine if the solution meets their needs. Further, they can start within a month. We believe that this alone is a compelling story.

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