

Wastewater Treatment

Introduction

In today's world, sewage water pollution is one of the major problems faced by most cities, this kind of pollution leads to health related and environmental issues. Sewage water is drained off into rivers without treatment which leads to creation of a chain of problems like spreading of diseases, eutrophication, increase in Biological Oxygen Demand (BOD).

Urbanization and high density population increases pollution of aquaculture ponds, lakes & lagoons, its affecting survival & mortality rate of aquatic life and water quality which ultimately affecting aquaculture industry and human health and environment as well.

Addition of extra nitrogen and phosphorus to ponds, lagoons and an enrichment of water by nutrient salts that causes structural changes to the ecosystem such as: increased production of algae and aquatic plants, depletion of fish species, general deterioration of water quality and other effects that reduce and preclude use. Ultimately it causes death of aquatic ecosystem and death of aquatic life.

What is MiCroBial Technologies

MiCroBial Technologies provides Bioaugmentation solutions for the waste water treatment and waste management industries. Our advanced microbial solutions restore quality in the world's polluted waters with the help of organic enzymatic solutions. Using natural and organic products, we create beneficial shifts in microbial ecologies to help you change the world. We create reliable biological solutions for the environment problems.

MiCroBial technologies products consist of bacteria, enzymes, nutrients that degrade organic matter as Carbohydrate, Proteins & Fat (FOG). These microbes produce different types of enzymes as amylase, Protease, Lipase, Cellulase etc. It contains aerobic and facultative anaerobic microbes.

MiCroBial Technologies is on the cutting edge of developing technology to apply the concept of "probiotics" in a variety of industries and applications – from human health and agriculture to industrial waste management, and beyond. As such, our products cater to a full spectrum of microbiomes.

Why MiCroBial Technologies

Unlike other biocatalysts, MiCroBial Technologies has proven to have broad functionality. The combination of an excellent Management Team, proprietary tested technology and stringently controlled manufacturing has positioned MiCroBial to significantly expand its reach with the potential of deploying the technology in Developing Nations with growing populations, lacking requisite infrastructure, facing burdening costs – both real estate and infrastructure for deploying conventional heavy capital investment based remediation process.

MiCroBial is a powerful combination of active micro-organisms that creates a broad range of beneficial enzymes with the remarkable ability to fully oxidize or digest a wide range of organic compounds and pollutants, leaving the environment in natural balance. It is a 100% organic and bio-degradable culture that is safe for humans, animals and the environment. Extremely High Speed 'Hydrolytic Enzymes' makes our products thousands of times faster than previously possible. MiCroBial products contains specifically selected different microbial strains for specific function that makes our products unique than other products.

Typical Application Area

Wastewater Treatment Plant (WWTP)
Sewage Treatment Plant (STP)/ Effluent Treatment Plant (ETP)
Food/Beverage/Pharma/Dairy Effluent Treatment Plant
Drainage system Wastewater canal, Oxidation pond
Fruit & Vegetables processing industries



MiCroBial Aqua

Application Area

Municipal Wastewater Treatment Plant
STPs – Govt & Private
Rudimentary sewage canal Treatment
Rivers Treatment
Lakes Treatment
All Industrial Wastewater Treatment where
Biological process unit's available

Benefits

Reduce BOD, COD, TSS, Biological Nutrients
Improve MLSS, Biomass in the system
Reduce odors
Reduces aeration and saving energy
Reduces need for chemical additives
Improve plant stability
Reduce sludge production
Reduces hydrogen sulfide, ammonia and nitrates
Enhance nitrogen and phosphorus removal
100 % natural and non pathogenic



MiCroBial FOG

Application Area

Municipal Wastewater Treatment Plant
STPs – Govt & Private
Industrial Wastewater Treatment
Wastewater contains Fat, Oil & Grease
Hotels & Building Management
Dairy, Food, Vegetables, Sugar Mill Industry
Slaughter house, Paper & Pulp Industry
Beverage, Pharma industry

Benefits

Degrade Fat, Oil & Grease
Reduce BOD, COD, TSS, Biological Nutrients
Improve MLSS, Biomass in the system
Reduce odors
Reduces aeration and saving energy
Reduces need for chemical additives
Improve plant stability
Reduce sludge production
Reduces hydrogen sulfide, ammonia and nitrates
Enhance nitrogen and phosphorus removal
100 % natural and non pathogenic



MiCroBial Odor

Application Area

Composting Industry
Landfill Odor Control
Garbage collection Plant
Slaughter house odor control
Kitchen waste odor control in Hotels
Biogas producing plant
Public urinals
Solid waste management plants

Benefits

Rapidly reduces odor & VOC, Fast acting
Improves nutritional quality of compost
Decrease composting period by 30 %
Reduces need for chemical additives
Increase biogas production
Reduce sludge production in septic tanks
Reduces hydrogen sulfide, ammonia and nitrates
Enhance nitrogen and phosphorus removal
Operate at low dosage
100 % natural & non pathogenic



MiCroBial Septic Tank

Application Area

Septic tanks, Sinks
Private and Public Toilets
Drainage systems
All domestic wastewater system
Hotels & Buildings Septic tanks
Composting Toilets

Benefits

Reduce sludge production
Breaks down suspended solids & fats
Reduce odors
Digest solids & reduce pump outs
Reduces need for chemical additives
Improve plant stability and smooth operation
Improve performance of septic/drainage system
Reduces hydrogen sulfide, ammonia and nitrates
Enhance nitrogen and phosphorus removal
Breaks down Fat, Oil & Grease
Remove blockages of septic/drainage system
100 % natural and non pathogenic

MiCroBial Technology Overview

MiCroBial technologies create a powerful composite biocatalyst from a unique blend of microorganisms, enzymes, and co-factors. This composite biocatalyst co-exists with existing wastewater biology to enhance their rate of reaction, resulting in a more efficient biological treatment process. The technology fits into a relatively new scientific field called Bioaugmentation that presents a simple and cost effective way to solve wastewater treatment problems without expensive capital enhancements. Unique to MiCroBial technologies is the ability to reduce the required time for bacteria to adapt to new waste streams.

MiCroBial technologies enables a rapid biological response to load and flow variation, a key differentiator to conventional Bioaugmentation which rely on product formulations specific to a waste stream. These products require more time to implement and can be rendered ineffective if the substrate changes.

What makes MiCroBial Technologies Unique?

Probiotics are live microorganisms which, when administered in adequate amounts, confer a health benefit on the host and contribute to a more balanced microbiome. MiCroBial Technologies is on the cutting edge of developing technology to apply the concept of “probiotics” in a variety of industries and applications – from human health and agriculture to industrial waste management, and beyond. As such, our products cater to a full spectrum of microbiomes. As a leading biotech firm, MiCroBial harnesses technology that utilizes beneficial and effective microbes to repopulate environments with healthy microorganisms. In effect, MiCroBial Technologies provides a natural, organic technology that provides completely biological solution for wastewater treatment, solid waste treatment, agriculture and aquaculture.

MiCroBial Composition

1. Group of human and environmentally friendly bacteria & enzymes
2. Probiotics
3. Metabolite Substrates
 - Digestive and metabolic Enzymes
 - Organic acids
4. Dextrose Carrier (also provides nutrients for microbials)

Key Components of MiCroBial Technologies

MiCroBial is a revolutionary microbial technology consisting of 9 microbes and aqua enzyme cocktail acting in symbiosis creating enzymes and powerfully working to rapidly digest fats, protein, carbohydrate, cellulose, bad organic odor and waste products. This makes MiCroBial perfect for a wide range of diverse applications. MiCroBial is formulated from 9 pure strain active ingredients which are stored in certified biological warehouses in the India. These are then cultured and fermented in a multi-stage process with a specially developed combination of bio vitamins and bio-minerals that are then further processed into forms of MiCroBial powder ready for packaging or inclusion in other products. For environment, solid waste treatment, animal feed, aquaculture applications further processes sterilize MiCroBial retaining only the pure MiCroBial enzymes and metabolites. Following are the microbes & enzymes include:

Denitrifying Bacteria
Nitrifying Bacteria
Fermentative Bacteria
Hydrolytic Enzymes

MiCroBial Core Capabilities

MiCroBial is created from a combination of human friendly active microbes in a multi-stage manufacturing process that yields beneficial enzymes, co-enzymes and co-factors. It is a natural 100% organic culture and replaces harsh chemicals in many of its applications. MiCroBial rapidly digests waste products comprising of fats, protein, carbohydrates and cellulose into their final end products of carbon dioxide, nitrogen gas, oxygen, and water and heat energy. In-vivo this technology completes digest on processes and eliminates toxins and waste products providing a systemic benefit. In addition the ability to rapidly break down a wide range of waste products means that MiCroBial can assist with a wide range of clinical conditions. There is virtually no biological process that cannot be enhanced with MiCroBial.

Quick degradation of non living & organic matter

Neutralizes toxins

Acts as anti bacterial & anti fungal

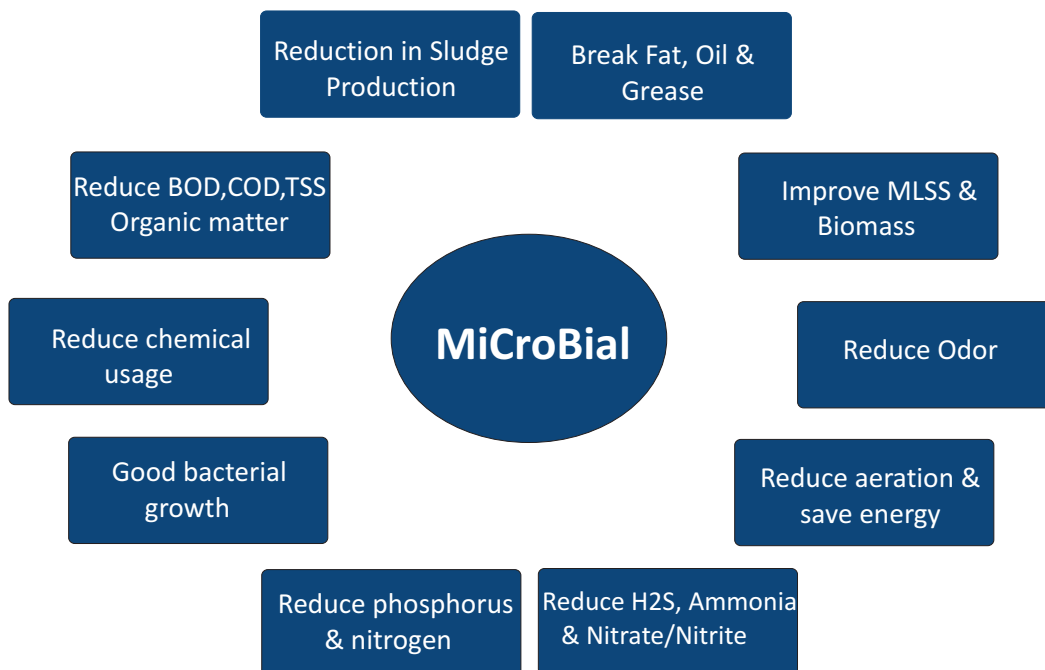
Exhibit growth of pathogenic bacteria

Reduce operation cost

Improve waste water quality

Benefits of MiCroBial Technologies

MiCroBial Technologies provide best economical solutions for the biological treatment of wastewater along with following benefits in wastewater treatment process.



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