

EffuTreatTM
Bioculture

MTM
M.B.PL

MOTHEREARTH
BIOTECH PVT. LTD.

ANAEROBIC

ANAEROBIC TREATMENT

Anaerobic wastewater treatment systems utilize oxygen-dependent bacteria, protozoa, and specialized microbes to purify water, unlike anaerobic systems that operate without oxygen. These systems enhance the natural microbial decomposition process to eliminate contaminants found in industrial wastewater for effective removal.

The microorganisms in these systems break down organic contaminants, which are typically quantified in terms of biological oxygen demand (BOD). BOD measures the quantity of dissolved oxygen required by aerobic organisms to decompose organic substances into simpler compounds. Elevated BOD levels indicate a high concentration of biodegradable substances in the wastewater, often resulting from the introduction of pollutants like industrial discharges, domestic sewage, or agricultural runoff.

BIOLOGICAL PROCESS

The Anaerobic wastewater treatment process is composed of two distinct stages. The first stage is known as the acidification stage, where anaerobes are responsible for breaking down complex organic compounds into acid or short-chain volatile acids. This initial step is crucial in preparing the wastewater for further treatment. Moving on to the second stage, known as the methane production phase, it consists of two important steps. The first step is acetogenesis, where the anaerobes synthesize the acids produced in the acidification stage to form acetate, carbon dioxide, and hydrogen gas. This step is essential in the conversion of the organic compounds into usable byproducts. The second step in the methane production phase is methanogenesis. In this step, the anaerobes act upon the newly created molecules to form carbon dioxide and gas. These byproducts can be utilized as fuel if necessary, while the wastewater itself is directed towards additional treatment or discharge. To cater to different applications and facility requirements, anaerobic treatment systems can be designed and configured as either single-stage or multi-stage units. This flexibility allows for customization and optimization of the treatment process to achieve the desired results efficiently. In summary, the anaerobic treatment cycle involves the introduction of wastewater into a bioreactor receptacle. This receptacle contains a thick semi-solid substance called sludge, which is teeming with anaerobic bacteria and other microorganisms. These microorganisms play a crucial role in breaking down the organic contaminants present in the wastewater, ultimately leading to the production of usable byproducts and the purification of the wastewater.



EffuTreat ANAEROBIC

EffuTreat Anaerobic consists of a blend of natural and safe bacteria that possess the capability to degrade multiple pollutants under anaerobic conditions. The bacteria found in EffuTreat (Anaerobic) exhibit exceptional stability. These bacteria are microencapsulated and packaged in a dormant state, ensuring a reactivation rate of 95% to 98% within their two-year shelf life. Each strain is carefully isolated from nature and cultivated in our facility. Only a precisely balanced combination of bacterial strains, like EffuTreat (Anaerobic), can effectively break down various pollutants into harmless byproducts.

BENEFITS OF USING EffuTreat ANAEROBIC

- High COD and BOD are effectively reduced.
- Accelerate the growth of highly concentrated acclimatized anaerobes to achieve rapid stabilization.
- Methanogenesis and biogas production are enhanced.
- Controls the growth of harmful bacteria.
- Plant commissioning time is reduced and the efficiency of the digester or UASB is increased.
- Bacteria efficiently breaks down oil, greases, and other intricate compounds.
- This product effectively minimizes the odor emitted by plant.
- Decreases the generation of surplus sludge.
- Enhances the overall productivity of the facility.
- Demonstrating effectiveness across diverse environmental conditions.

AREAS OF APPLICATION

- Up flow anaerobic sludge blanket (UASBR)
- Biogas Digester
- Anaerobic lagoon
- Anaerobic filter (stone & PVC media)
- Expanded granular sludge blanket



PERFORMANCE PARAMETERS

- **pH** 6.5-7.5
- **Temperature** 5°C - 55°C
- **Reactivation Rate** 99% after addition to water
- **Concentration** Highly Concentrated
- **Shelf Life** 1 Years

PHYSICAL STATES AND THEIR FEATURES

• Physical States	LIQUID	POWDER
• Appearance	Tortilla brown	Swiss coffe brown
• Odor	Smell of media & micro organisms is present	Odorless
• Moisture Content	100%	15% - 17%
• Mesh Size	N/A	0.4 mm – 0.8 mm
• Packaging	50 ltr drum, 1 ltr bottle	1 kg Aluminum Standing Pouch

APPLICATION MATRIX

- Merge 1 kilogram of EffuTreat ANAEROBIC Bioculture with 1 kilogram of liquid jaggery, and subsequently add this combination to 100 liters of feed water. (2Kg in 200 Litres & so on...)

DOSAGE SCHEDULE

- The quantity needed daily is determined by the volume of wastewater and the organic load.
- However, the ratio between the amount of water to be used and the odor control solution also depends on the intensity of the odor at different places