EffuTreat™
Bioculture

M.B.P.L

MOTHEREARTH
BIOTECH PVT. LTD.

AEROBIC

AEROBIC TREATMENT

Aerobic 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

Aerobic systems, which rely on organisms that require oxygen, necessitate the provision of oxygen to the biomass. This can be achieved through the use of wastewater treatment ponds, which introduce air to the wastewater by creating a large surface area, or by incorporating mechanical aeration devices. The composition of the wastewater and the effluent requirements determine the specific processes and microorganisms involved in a biological wastewater treatment system. Operational procedures must be tailored to maintain optimal biomass growth rates for the microbial populations in the given environment. Monitoring and adjusting aeration is often necessary to ensure a consistent level of dissolved oxygen, which is crucial for the bacteria to multiply at the required rate for meeting discharge requirements.

Apart from dissolved oxygen, biological systems also need to be balanced in terms of flow, load, pH, temperature, and nutrients. Achieving a balance among these factors can make the biological treatment process quite intricate. Below, you will find examples of various types of aerobic biological wastewater treatment systems commonly used in industrial facilities. These descriptions will provide you with an understanding of the technologies and systems that could be beneficial for your specific industrial facility.

EffuTreat AEROBIC

EffuTreat culture, consisting of advantageous microorganisms, flourishes in environments abundant in oxygen. In such conditions, it assumes a crucial function in decomposing organic pollutants and contaminants. Its growth is not limited to a specific temperature range, as it can thrive within a wide span of 12°C to 52°C. Upon introduction into wastewater treatment systems, EffuTreat rapidly multiplies, resulting in an increased biomass content. By harnessing the inherent capabilities of nature, aerobic bioculture proves to be a highly efficient method for wastewater purification.

BENEFITS OF USING EffuTreat AEROBIC

- Decrease in the time required for commissioning the ETP.
- MLSS experiences a rapid expansion accompanied by a significant increase in MLVSS concentration.
- Microorganisms that are acclimated - Leading to enhanced COD elimination.
- EffuTreat Aerobic fosters the proliferation of COD degraders and effectively hinders the growth of Pathogens.
- Performance Enhancement and Effective Shock Load Stabilization.
- The reduction of COD, along with the suppression of foul odor from the ETP, is achieved.
- Cuts down on operational expenditures with zero downtime.

AREAS OF APPLICATION

- ASP - Activated Sludge Process
- E-ASP- Extended Aeration Process
- SBR - Sequencing Batch Reactor
- MBBR - Moving Bed BIo Reactor
- MBR- Membrane BIo Reactor

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 AEROBIC 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