

## Biofilm Polishing of Effluent for Reuse

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### Abstract

The major risks lie in the wastewater is the pathogen city of the bacteria move with wastewater and sludge, which can cause many diseases, and most important of these pathogenic prions in sewage, including harmful bacteria that cause typhoid, cholera, dysentery and other diseases infectious organisms, protozoa .Recently, the potential of bio film reactors to remedy toxic liquid effluents, especially wastewater containing chlorinated organic has gained remarkable reorganization. Bio films rector have bio mass active even at very low concentration of the target organic, rendering the rector more sufficient for the purpose of removing track toxic compounds in waste water. However, biofilm process has also been found to be less sensitive to the presence of toxic and in laboratory materials, and more resistant to shock loading then dispersed growth system. Such characteristics are essential where floor space is becoming expensive and yet there is great need to treat and polish industries effluents before reuse. This research was conducted, aiming to study the potential of implementing biofilm biological process in waste water treatments and there are four specific objectives are achieved like following: polishing effluent, study Biofilm process effluent, study the condition of the influents and effluents of the pond and d analyze the critical parameters in the pond that effect to the aquatic life and physical pond state.

**Keywords:** *Biofilm Reactor, Process of Biofilm, waste water.*

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### 1. Introduction

Wastewater is simply water that has been used and discharged as waste. It usually contains various pollutants, depending on what it was used for. Called an expression of wastewater to all types of waste water from various domestic and commercial activities and add to it in the major cities of industrial waste water. Generally, wastewater consists of about 99% water and about 1% of impurities and harmful pollutants (Jagals, P and Lues, 1996). The term sewage usually refers to waterborne waste of public sewer network to the treatment plant or to any natural mouth away from the city. Basically, it can be classified into two major categories by source which is domestic or sanitary wastewater and industrial wastewater. Domestic wastewater comes from residential sources including toilets, sinks, bathing, and laundry. It can contain body wastes containing intestinal disease organisms. The industrial wastewater is discharged by manufacturing processes and commercial enterprises. Process wastewater

can contain rinse waters including such things as residual acids, plating metals, and toxic chemicals. Wastewater is treated to remove pollutants (contaminants). Wastewater treatment is a process to improve and purify the water, removing some or all of the contaminants, making it fit for reuse or discharge back to the environment. Discharge may be to surface water, such as rivers or the ocean, or to groundwater that lies beneath the land surface of the earth. Properly treating wastewater assures that acceptable overall water qualities are maintained. Health problems and diseases have often been caused by discharging untreated or inadequately treated wastewater in many parts all over the world. Such discharges are called water pollution, and result in the spreading of disease, fish kills, and destruction of other forms of aquatic life. The pollution of water has a serious impact on all living creatures, and can negatively affect the use of water for drinking, household needs, recreation, fishing, transportation, and commerce (Metcalf and Eddy, 1991, Bitton, 2005). In the present work, the effect of biofilm process at the influent and effluent of the pond were study to determine the critical parameters which will affect the aquatic life and pond state.

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