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The New Methods for Purifying the Industrial Effluents by Submerged Biofilm Reactors

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ABSTRACT

Life on the earth is dependent on dynamic interactions between its physical, chemical and biological components. In fact, all the individual processes are responsible for regulating the environmental equilibrium which can provide biosphere for multiple forms of human life. In order to overcome on shortcomings, the use of immobilized cell bioreactor technology which provides a valuable effective for treatment of waste water is discussed. An immobilized system which in this matter is applied is about absorbed or captured microorganisms in a solid substratum to retain them in a reactor or analytical system. The multiply of these immobilized cells is done when by nutrients be supplied and then migrate to the surfaces which are referred to biofilms. The biofilms can be developed on various support systems such as polypropylene pall, rocks, sands, charcoal, ceramics, and glass beads. The controllable reaction vessels which are used for these colonized surfaces are referred to bioreactors. Bioreactors in both up flows and down flows mode which use of either batch or continuous processes principle can be operated. Synchronic with development in biotechnology, there is also an extensive development in the field of bioreactors like: pumped tower loop reactor (PTLR), liquid impelled loop reactor (LILR), multipurpose tower bioreactor (MTB), fluidized-bed and packed-bed bioreactor, that in this article are discussed them.

KEYWORDS

Biofilm, Bioreactor, Effluent, Environment, Liquid, Waste Water

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