

# Transport of Vocs Through Bioflim in Biotrickling Filters

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## Abstract

Realising the interlinkage of nature and engineering are of paramount essential while comprehending the basics of system's performances. Application of biotechniques in air pollution control is one such emerging scientific area, where the understandings of these complex systems demand more utilisation of computing softwares. Recently, biofiltration is a versatile biological air pollution control technology for treatment of organic and inorganic malodours. Though the systems can be easily build, they are very difficult to operate successfully due to deprived knowledge on understanding the engineering aspects of the system such as the flow of air and water, energy balances and influence of other key parameters. The present study focuses on elucidating the effects of various operating parameters such as biofilm thickness, liquid film thickness, gas film thickness on overall system performance. On first case, biofilm thickness was presumed to be constant along with variation of gas and liquid phase thickness. And on second case, both the gas and liquid phase was presumed to be constant and the biofilm thickness alone was varied. These studies were carried out to understand the impact of hydrodynamics on solute concentration profile across biofilm and its effects on gas flow and pressure drop.