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SECTION**

“Treatment Technologies for Gaseous Fluxes”

**BIODEGRADATION – INNOVATIVE TECHNOLOGY
FOR TREATING GASEOUS FLUXES
CONTAINING VOCs**

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Abstract

Biological processes have been used for the treatment of large volumes of air containing low concentrations of volatile organic compounds (VOCs) and are found to be more economical and environmentally viable than long existing air emission control. The biological technologies offers several advantages such as lower treatment costs, reduced environmental impact, absence of formation of by-products such as nitrogen oxides (NO_x) or spent activated carbon, low energy demand, no need for fossil fuel burning, and low temperature treatment. The present paper is a review on fundamental and theoretical aspects of biological treatment technologies applied for the depollution of gaseous streams containing VOC. The paper describes the three most used bioreactors for VOCs treatment, the mechanisms of biofiltration, the operational and design parameters, and the types of microorganisms involved in the biodegradation processes.

Keywords: volatile organic compounds (VOCs), biofiltration, biofilters, biotrickling filters, bioscrubbers

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