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OIL REMOVAL FROM REFINERY WASTEWATER THROUGH ADSORPTION ON LOW COST NATURAL BIOSORBENTS

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Abstract

The performance, in terms of sorption properties, of the two natural sorbents were compared with the commercial synthetic sorbent Fibroil. The experiments were conducted using two continuous setups of filtration under dynamic conditions. Experimental results revealed that the removal of chemical oxygen demand (COD) was 89%, 87% and 37% for Fibroil, *Schoenoplectus lacustris* and *Acorus calamus* respectively in a down-flow filtration, while with the up-flow filtration the removal efficacy of COD was 96% and 89% for Fibroil and *Schoenoplectus lacustris* respectively. *Schoenoplectus* lacustris presents a great potential to be used as an inexpensive and easily available alternative bio sorbent for the removal of oil from wastewater.

Keywords: adsorption; filtration, natural sorbent, oily wastewater

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