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Enhancement of micro-filtration performance for biologically-treated leachate from municipal solid waste by ozonation in a micro bubble reactor

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Abstract: The degradation of recalcitrant organic compounds in biologically-treated municipal solid waste leachate(MSW) was investigated using pre-ozonation in a micro bubble reactor. The effects of operating parameters such as reactor pressure, liquid phase temperature, inlet ozone concentration and ozone flow rate on micro filtration (MF) performance were studied systematically. It is demonstrated that the MF was obviously enhanced with ozonation time before 45 min and increasing inlet ozone concentration, as well as increasing ozone flow rate. Additionally, the reactor pressure and liquid phase temperature have no obvious effects on improving MF performance. And the mechanism for the enhancement of MF performance was explored through analysis of the colloids present in the leachate by SEM and organic compounds by GC/MS. The micro flocculation effect and the reduction of

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