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Decolorization, biodegradation and detoxification of reactive red azo dye using non-adapted immobilized mixed cells

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Highlights

- Sequential anaerobic-aerobic system was used for azo dye reactive red biodegradation
- Complete decolorization of reactive red dye was accomplished during anaerobic phase
- •Non-adapted immobilized cells successfully favored the detoxification of reactive dye
- The effect of bio-carrier type on the dye decolorization efficiency was negligible
- Maximum COD removal of 96% was observed at RR2 initial concentration of 10 mg/L

Abstract

Azo dyes are refractory and recalcitrant contaminants that pose a significant impact on the environment upon releasing to the natural resources. This study focused on the decolorization and biodegradation of water soluble azo dye reactive red (RR2) in an