

عنوان مقاله:

Rapid Decolorization and Bioremediation of a Disperse Dye in Textile Effluents by a New Isolate of Bacillus Sp

محل انتشار:

اولین سمینار تخصصی محیط زیست و رنگ (سال: 1382)

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خلاصه مقاله:

Among the twenty bacterial strains isolated from the effluent water of a textile mill in central Iran, one was able to decolorize Secrilene Black (Disperse Black) dye, (range : 10-100 mg/l), present in artificial or real effluents. Biochemical characterization indicated that the strain is an aerobic strain of Bacillus sp. Studies via NMR and FT-IR and GC-MS showed that decolorization occurs by viable and active cells within 30 min (cell biomass / dye: 5/1) without any need for extra carbon or nitrogen sources, whereas biodegradation takes place in 7 days. Studies showed that bioremediation occurs via a mechanism that is heretofore unreported , eg unaffected by inhibitors like menadione, sodium azide, di-nitrophenol and jodosobenzoic acid, products of biodegradation are non-toxic against the PS bacteria, human cells and Phanerochate chrysosporium (PTCC 5130) . It is thus concluded that SP strain could be advantageously utilized for the treatment of effluents containing Serilene Black dye

کلمات کلیدی:

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