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Studies on Chromate Removal by Chromium-Resistant Bacillus sp. Isolated from Tannery Effluent

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ABSTRACT
A chromate-removing strain was isolated from spent chrome effluent and identified as Bacillus circulans strain MN1. The isolated strain was studied for resistance to Cr (VI) and its ability to remove Cr (VI). The strain was found to tolerate Cr (VI) concentration as high as 4500 mg/L, but the cells growth was heavily influenced when initial Cr (VI) concentration was increased between 1110 mg/L and 4500 mg/L while Cr(VI) at 500 mg/L to 1110 mg/L did not suppressed the cells growth. The experiments also demonstrated that the cells removed toxic Cr (VI) more efficiently at 30?C compared with that at 25?C and 35?C. The optimum initial pH for Cr (VI) removal was 5.6 and final pH values of 5.1-5.6 were observed for initial pH 5.2-5.7.

KEYWORDS
Bacillus sp., Bioremediation, Cr (VI) Removal, Tannery Effluent

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