

Optimal Conditions for Thiosulfate Oxidation by *Thiobacillus* sp. IW

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Abstract

Thiosulfate oxidation by *Thiobacillus* sp. IW was studied in shake flasks and a bubble column under different aeration conditions. The maximum thiosulfate oxidation rate constant was affected by oxygen transfer only at aeration intensities. The maximum thiosulfate oxidation rate constant was about 0.045/h in both shake flasks of different size volume and the bubble column. There are no significant differences in respect of substrate consumption for Influence of the rate of agitation on thiosulfate oxidation. *Thiobacillus* sp. IW was capable of oxidizing thiosulfate, and the growth yield on thiosulfate was determined as $Y_L = 3.8 \times 10^9 \text{ cells/g-S}_2\text{O}_3^{-2}$. The thiosulfate concentration decreased rapidly with the initial free cell concentration.

감 사

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