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Removal of hydrogen sulphide from petroleum wastewater using microbial technology

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Removal of hydrogen sulphide from the petroleum refinery waste water was carried out with the help of a bio reactor where the microbial method of treatment was followed. In the present work, two types of sulfur oxidizing bacteria such as, ***Pseudomonas Sp***. and ***Thobacillus Sp***. were compared. It was observed that ***Thiobacillus Sp***. has higher efficiency compared to ***Pseudomonas sp***. The growth of ***Thiobacillus Sp***. was carried out in the fermentor at operating conditions of temperature 42°C and pH 6.5 with dissolved oxygen rate of 64. Immobilization was carried out using calcium alginate as a packing material in packed bed reactor (PBR). The concentration of hydrogen sulphide decreased to maximum extent from 394 mg/l to 44 mg/l which was determined by methylene blue method. Hydrogen sulphide removal efficiency 88-89% was achieved 3 days operation. Kinetic studies are being carried out.

Biography

M.Karthikeyan, studying M.Tech Department of Chemical Engineering at Anna University Chennai. I have participated more than five International and National Conferences. In that two paper presentation I won second prize