

عنوان مقاله:

Elimination of Chloroform (CHCl₃) from Drinking Water via a Synergistic Effect of Stripping, Oxidation and Adsorption Process in Air Lift Loop Reactor

محل انتشار:

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نویسندگان:

A. Al-Ezzi - *Department of Chemical Engineering, University of Technology, Baghdad, Iraq*

S. H. Alhamdiny - *Department of Chemical Engineering, University of Technology, Baghdad, Iraq*

خلاصه مقاله:

In this work, a modified internal loop airlift reactor has been designed to remove the organic pollutants in synthetic wastewater at an efficient and inexpensive treatment technique by means of a synergistic effect combining of (oxidation, stripping and adsorption). The validation of the current style was experimentally examined in the treatment of synthetic Wastewater contained chloroform. The experimental testing rig was implemented at various air flow rates range (5-20) (L/min), with total variable residence period (5-60 min) with a different molar ratio of CHCl₃ to H₂O₂ i.e. 1:10, 1:15 and 1:20. The results showed that the best molar ratio of chloroform to hydrogen peroxide was 1:20 for the air flow rate 18 L/min and extended retention period (60 min) having the uppermost results (83.3%) to remove chloroform from the contaminated effluent water. This design complements the research objectives with high efficiency through the synergy of stripping, oxidation and adsorption processes to remove contaminated chloroform from wastewater. This work contributes to a part of the solution of the environmental problems of the contaminated .water before recycling, reuse or released to our safe environment

کلمات کلیدی:

Adsorption, Chloroform, Stripping, Synergistic System, oxidation

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