Penyisihan amonia terlarut dari air limbah melalui kontakor membran super hidrofobik = Ammonia removal from waste water using superhydrofobic membrane contactor

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Abstrak

ABSTRAK
Kekurangan utama dari membran kontaktor adalah penurunan performa membran ketika terbasahi oleh air limbah atau penyerap. Penelitian dilakukan untuk mengatasi masalah tersebut dengan menggunakan membran superhidrofobik. Penelitian ini dilakukan dengan memvariasikan konsentrasi (100, 200, 400, 800 ppm), pH air limbah (10, 11, 12), pH penyerap (0,5;1;2), laju alir, dean jumlah serat membran. Koefisien perpindahan massa menyeluruh tertinggi diperoleh ketika jumlah serat 2000, konsentrasi air limbah 200 ppm, pH air limbah 11, pH absorben 1, dan lajyu alir air limbah 60 rpm yaitu sebesar 0,018 cm/s.
<hr>ABSTRACT
The main weakness in the membrane contactor is the decline in the performance of the membrane when wetted by wastewater or absorbent solution. The proposed research will try to overcome that weakness by using membranes that has superhydrophobic properties. This experiment is done with variety of feed concentration (100, 200, 400, 800 ppm), pH of feed (10,11,12), pH of absorben (0,5; 1; 2), flowrate feed, and the amount of stiff from the membrane. The highest mass transfer coeficients obtained in membrane with 2000 stifs, synthetic waste water concentration is 200 ppm, pH of waste water is 11, pH of absorben is 1, and the flowrate of synthetic waste water is 60 rpm, is 0,018 cm/s.