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KEY WORD: ZINC / LIQUID MEMBRANE / EXTRACTION / HOLLOW FIBER / BUFFER

WEERAWAT PATTHAVEEKONGKA : INFLUENCE OF ACETIC ACID-SODIUM ACETATE SOLUTION CONCENTRATION ON EXTRACTION OF ZINC IONS VIA A HOLLOW FIBER SUPPORTED LIQUID MEMBRANE. THESIS ADVISOR : ASSOC. PROF. URA PANCHAROEN, D.Eng.Sc. THESIS CO-ADVISOR : DECHA CHATSIRIWECH, Ph.D. 118 pp. ISBN 974-331-575-6

This research studied the concentration of a mixture of acetic acid and sodium acetate solution which was a buffer solution affecting the extraction of zinc ions via a hollow fiber supported liquid membrane. The liquid membrane was prepared by diluting D2EHPA (Di-2-Ethylhexyl Phosphoric Acid) extractant in Kerosene Jet A-1 with a concentration less than 10% by volume. The feed solution was an aqueous of 100 ppm zinc ions, and the stripping solution was a sulfuric acid solution of 0.1 mole/liter. The result showed that extractant concentration in the process without any buffer solution obtained high efficiency when the concentration is 0.9% by volume. When the buffer solution is used in the process, it provided not only constant pH value of feed solution but also higher efficiencies of the extraction and the stripping. Moreover, the buffer solution could reduce extractant concentration from 0.9% to 0.5% by volume through an appropriate ratio of buffer solution to feed solution of 1:50. For an effect of flow rate in the process, it was shown that as the flow rate increased, the efficiency of extraction and stripping decreased. From the results, it was found that an appropriate flow rate of the system was equal to 100 ml/min.

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