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SIMULTANEOUS REMOVAL OF NITRATES AND NITRITES BY DONNAN DIALYSIS USING DOEHLERT DESIGN

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Abstract

The removal of nitrate and nitrite simultaneously were investigated in this study by Donnan Dialysis. First, the removal of one component in the feed compartment was performed according to different parameters such as concentration of counter-ion in the receiver compartment, concentration of nitrate and concentration of nitrite separately in the feed compartment as a preliminary study. Then, the removal of nitrate and nitrite simultaneously in the feed compartment was conducted through three membranes AFN, AMX and ACS. The membrane that displays the most advantageous properties in the exchange, that provide the highest rate of counter-ion transport from the receiver to the feed will be used in the optimization according to the Response Surface Methodology.

Keywords: anion-exchange membrane, doehlert, donnan dialysis, nitrate, nitrite

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