

Electrodialysis Cell Performance with Various Proton Exchange Membranes for the Concentration of Hydriodic Acid in Sulfur Iodine Process

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The performance of electro dialysis cell for concentrating hydriodic acid was investigated with various proton exchange membranes. For this purpose, two types of proton exchange membranes were synthesized and compared with three types of commercially available membranes. The initial molar ratio of hydriodic acid to water was kept below azeotrope composition of 0.19 with addition of iodine below the solubility limit at a given temperature and composition. The polarization curves were measured on the electro dialysis cell with different proton exchange membranes. In this study, the cell voltage, electro-osmotic drag, and iodine transport will be discussed with various proton exchange membranes.