

올레핀/파라핀 분리를 위한 고분자 분리막

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Olefin/paraffin separation membranes have been interested due to many advantages such as low cost and simple operation. The long-term stability, high selectivity for olefin/paraffin, and high permeance have been required for the practical applications of facilitated olefin transport membranes. Previous results obtained for membranes consisting of poly(2-ethyl-2-oxazoline) (POZ), AgBF_4 , and $\text{Al}(\text{NO}_3)_3$ showed relatively low mixed-gas permeance, i.e., 4.8 GPU, even though these membranes have excellent long-term stability. In this study, poly(ethylene oxide) (PEO) was suggested as a new polymer matrix for practical applications. We found that when PEO was utilized as the polymer matrix, the membrane showed long-term stability and the mixed-gas permeance increased to 20 GPU. It was thought that this enhanced performance was attributed to the stabilization of silver ions in the permeable polymer matrix.