Olefin Recovery from Hydrocarbon Mixtures by Reversible Chemical Separation

손승준, 최대기*[1], 김훈식[1], 최현우[1], 남기문[1], 김승욱
고려대학교 화학공학과; [1]한국과학기술연구원
(dkchoi@kist.re.kr*)

Olefin/paraffin separation from hydrocarbon mixtures is one of the most important processes in the petrochemical industry. The conventional method for separating olefin/paraffin mixture is highly energy-intensive and low-temperature distillation. A process based upon reversible chemical complexation presents an attractive alternative to distillation. It was used cuprous (Cu^{1+}) ions as a selective separating agent. The cuprous 1+ ions was known to have the highly selectivity for olefin hydrocarbons. In this study, liquid-liquid absorption separation method based upon reversible chemical complexation was used for separating olefin from hydrocarbon mixtures. Use of such a reversible olefin complexation process could substantially reduce the capital costs and energy requirements of olefin/paraffin separations.