

Absorption of CO₂ into 2-hydroxy ethylammonium ionic liquids

박상욱*, 황병진, 손영식, 오광중, 김성수¹
부산대학교; ¹부산가톨릭대학교
(swpark@pusan.ac.kr*)

Carbon dioxide was absorbed into organic solvents with the 2-hydroxy ethylammonium (HE) ionic liquid using a batch stirred tank with a plane of gas-liquid interface in a range of 0–2.0 kmol/m³ of HE and 298–318 K at 101.3 kPa. The absorption of CO₂ was analyzed with the film model accompanied by zwitterionic mechanism of CO₂ with HE. The proposed model fits the experimental data of the enhancement factor due to the ready, chemical absorption of CO₂ in different solvents, and at different temperatures, and HE concentrations. The reaction rate constant of CO₂ with HE was correlated linearly with the solubility parameter of the solvent.