

## Measurement of Solubility of CO<sub>2</sub> in ionic liquids, [BMP][TfO] and [P14,6,6,6][Tf2N]

송하나, 유기평, 임종성\*

서강대학교

(limjs@sogang.ac.kr\*)

Volatile Organic Compounds (VOCs) are commonly used in various industries, but most of VOCs are toxic. VOCs are sometimes accidentally released into the environment, where they can damage soil and ground water. But the non-volatility of ionic liquid would not cause environmental pollution. In this reason, the ionic liquids (IL's) receive attention recently as a green solvent. Ionic liquids are liquid at room temperature or below. Ionic liquids are electrically conductive and have extremely low vapor pressure. Many have low combustibility, good thermal stability, a wide liquid range. In this reason, the ionic liquids (IL's) receive attention recently as a green solvent for reaction and separation.

Solubilities of CO<sub>2</sub> in ILs, 1-butyl-1-methylpyrrolidinium trifluoromethanesulfonate ([BMP][TfO]) and trihexyltetradecylphosphonium bis(trifluoromethylsulfonyl)imide ([P14,6,6,6][Tf2N]) have been experimentally studied for development of a separation process of mixed gas containing CO<sub>2</sub>. The range of temperature for the experimental measurements is from 303.15 K to 373.15 K.