

Ionic Liquids



UNIVERSITY OF
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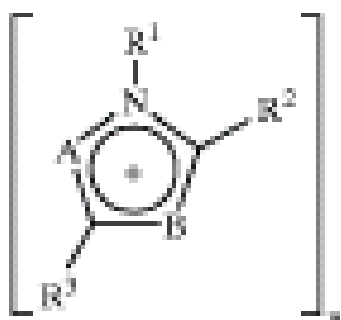
Office of Technology Transfer

Separation of Gassed using Ionic Liquids

Pat. 6,579,343

Background

Researchers at Notre Dame pioneered the use of ionic liquids for use in gas separation. And this work continues today, with an eye towards applications in natural gas purification, effluent treatment, pre-combustion separations, supported liquid membranes, and gas drying.



Technology

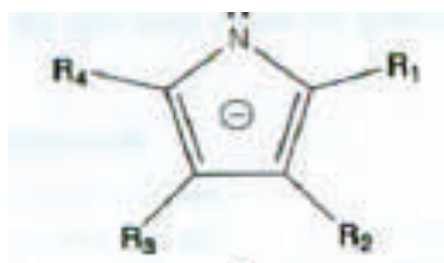
Nitrogen containing heterocyclic cations have been demonstrated to have a high solubility towards common impurities in gas streams (such as CO₂ and water vapor). Low vapor pressure and fully ionic nature of the solution means the technology is a green solvent.

Chemically Tailored Ionic Liquids Comprising Heteraromatic Anions

Pat. Pending

Background / Technology

Aprotic heterocyclic anions (AHAs) provide the ability to react on a equimolar ratio with a target gas such as CO₂ while avoiding the viscosity increase seen in other systems. Specific compounds can be developed to meet the performance needs in different applications. Additionally, this class of ionic liquids can be engineered to optimize the enthalpy required for absorption/desorption cycle.



Applicaitons

- flue gas separations
- Analytical
- Co-fluid thermal cycles

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UNIVERSITY of NOTRE DAME
Department of Chemical and Biomolecular Engineering

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TO: Tim Joyce, Licensing Associate

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