

4<sup>th</sup> Annual Congress and Expo on

# BIOFUELS AND BIOENERGY

April 27-28, 2017 Dubai, UAE

## A brief review: Physiochemical properties and solubility of ionic liquids for carbon dioxide capture

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Over past decades, astounding climatic changes throughout the globe have gained the worldwide attention. The rapid increase in the amount of greenhouse gases, essentially carbon dioxide, is the major concern for developing a sustainable future. Carbon dioxide concentrations have increased by 40% since pre-industrial times, primarily due to fossil fuel emissions. Carbon capture is a technology to capture carbon dioxide (CO<sub>2</sub>) emissions produced from the large point sources of electricity generation and industrial processes which uses fossil fuels; which in turn helps in the prevention of the carbon dioxide from entering the atmosphere. Many of the carbon capturing technologies are widely available and commercialized. The proposed article reviews the alternative approach of carbon capture by using ionic liquids. The article also focuses on the types of ionic liquids used for capturing CO<sub>2</sub> mainly: Room temperature ionic liquids, task specific ionic liquids, supported ionic-liquid membranes and polymerized ionic liquids. A brief review of physiochemical properties and VLE data of the ionic liquids and CO<sub>2</sub> systems are also mentioned. Later the current developments in ionic liquids which will make them well adaptive and efficient enough for adequately capturing CO<sub>2</sub> from large point sources are also given a focus.

### Biography

Kamal Sood is pursuing Bachelor's degree in Chemical Engineering at Pandit Deendayal Petroleum University, India. He has presented a poster in CHEMCON-2015 at IIT Guwahati. Apart from this, he is currently working in a research project funded by his university. Moreover, he has also presented a paper on "Advanced Oxidation Process" in a university presentation and a technical paper in his University Conference in 2014.

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