

Deep Extractive Desulfurization of Diesel Fuel Using Ionic Liquids

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Diesel fuel is one of the most important fuels that can be used in automobiles, trucks, boat, and many other machinery. Typically, diesel produced from crude oil has a high sulfur content. Therefore, when this diesel is burned, sulfur oxides will be released to the environment. These gases are very harmful and therefore diesel must be treated before it is used.

Different treatments methods have been proposed such as hydro-desulfurization and oxidative desulfurization. Here we present desulfurization of diesel using an ionic liquid extraction. This method uses low energy and a reagent that is abundant and it can be regenerated. Furthermore, it is safe and has high efficiency of sulfur removal, and it is environmentally friendly.

Process simulation has been carried out using ASPEN PLUS. Different factors such as temperature, time and mixing rate were examined to study their effects on deep extraction of sulfur using ionic liquid.

Biography:

Nabil Abdel Jabbar is a Professor of Chemical Engineering at American University of Sharjah (AUS). He has worked as a director of Gulf Ecosystem Research Center at AUS. He also worked as a faculty member at Jordan University of Science and Technology, as a Fulbright visiting professor at the University of Wisconsin-Madison, and as a senior project engineer at Aspen Tech. He has published several journal and conference articles and organized many international and regional conferences. His areas of research and teaching interest are advanced process control, process synthesis and optimization, mathematical modeling and computer simulation.