

## Adsorptive Desulfurization of Diesel for Fuel Cell Applications: A Screening Test for Finding Potential Commercial Adsorbents

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During the past decades much attention has been considered the desulfurization of diesel oil which is important as a source for the fuel cells to prevent the sulfur poisoning of both diesel steam reforming catalyst and electrode of fuel cell. Although alternative desulfurization techniques have been investigated, desulfurization for ultra-low-sulfur diesel (ULSD) is still changing. Therefore, this research focuses on the desulfurization of commercial ultra-low sulfur diesel (ULSD) for molten carbonate fuel cell (MCFC). Herein, the performance of several kinds of commercial adsorbents based on activated carbons, zeolites, and metal oxides for desulfurization of ULSD were screened to find potential adsorbents. Experiment is carried out both equilibrium and dynamic system. Ultra trace sulfur analyzer equipment (NSX-2100V, Mitsubishi, Japan) was used to analyze total sulfur concentration in each fuel sample. In results, the evaluation between the sulfur performances of each group adsorbent was discussed.