

## **Adsorptive denitrogenation of fuel by oil palm shells as low cost adsorbents**

### **ABSTRACT**

This study reviews the suitability and effectiveness of oil palm shells as low cost adsorbents via physically activation with carbon dioxide as an adsorbent for denitrogenation of fuel under different concentrations. With hydrogen, high temperature and pressure, hydrodenitrogenation (HDN) is used to remove Nitrogen Containing Compounds (NCCs). However, the cost of HDN is increasing rapidly due to the increasing concentration of NCCs in fossil fuels. NCCs compete with sulfur compounds on the active sites of catalysts in the conventional process. Therefore, NCCs should be removed as much as possible. Thus, searching for an alternative process to remove NCCs in a cost efficient manner is very important.