

## Adsorptive Removal of Tetrahydrothiophene(THT) by using Metal ion-exchanged Y-Zeolites

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Removal of sulfur compounds present in hydrocarbon fuels is markedly important for fuel cell applications because sulfur species irreversibly deactivate fuel processing catalysts and fuel cell electrodes. Adsorptive removal of sulfur species from liquid transportation fuels has been widely investigated using various adsorbents such as porous carbon materials, metal impregnated oxides, zeolite 5A, 13X, ZSM-5 and Y zeolites of various metal cation forms. In this work, we prepared various metal ion-exchanged Y zeolites (M-Y) as adsorbents through a cation-exchange method from Na-Y zeolite, and compared adsorption characteristics of tetrahydrothiophene (THT) on the adsorption sites formed in M-Y. The adsorption strength of THT on CoNa-Y zeolite appeared to be strongest among them.