Science Publications

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Title: Remediation of Methyl Tert-Butyl Ether (MTBE) Contaminated Water by Using Insitu Catalytic and Biological Combined Technics

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Abstract: The hydrolysis reaction of Methyl Tert-Butyl Ether (MTBE) into biodegradable products was studied on as-synthesized and commercial H-MFI zeolites. The effect of synthesis procedure and SiO2/Al2O3 ratio was investigated. The results obtained were indicated that H-MFI zeolites were effective in MTBE hydrolysis and increasing of the Si/Al ratio promotes the hydrolysis reaction. The amount of produced TBA was always lower than what expected estoichiometericaly. It is concluded that the missing amount of TBA can be a result of possible formation of an alkene. The capability of indigenous microorganism to biodegrade hydrolysis products in presence of zeolite was also studied. Microorganism was able to use products except TBA produced intermediate carbocation hasn't any adverse effects on the microbial activity.