

Removal of MTBE using Cyclodextrin

백기태, 양지원*
한국과학기술원
(jwyang@kaist.ac.kr*)

Immobilization behavior of methyl tert-butyl ether (MTBE) by various cyclodextrins(CDs) was studied to investigate the feasibility of MTBE removal using cyclodextrins. Even though MTBE has relatively low hydrophobicity and higher polarity compared to other organics, it was effectively immobilized by CDs. The immobilization isotherms was shown as a type of Freundlich isotherms, and the immobilization capacity of β -CDs was the largest among natural CDs. Even though the cyclodextrin removed MTBE effectively, separation of the cyclodextrin-MTBE complex was quite difficult. To solve this problem, cyclodextrin based-biopolymer was synthesized to remove MTBE from groundwater. Even though the removal efficiency of cyclodextrin polymer was lower than the monomer, it could be a good treatment method for MTBE because of higher removal efficiency and easy regeneration.