



## 第201回触媒化学研究センター談話会

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**演 題** : Catalytic Study and Industrial Development of Ethyl-Benzene Production Using Dilute Ethylene in FCC Off Gas

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**会 場** : 北海道大学創成科学研究棟  
4 階 セミナー室 04-213・214号室

**要 旨** : The production of ethyl-benzene from diluted ethylene in FCC off-gas comprises two steps. The first is the alkylation of benzene with ethylene, the second is the trans-alkylation of by-products such as di-ethylbenzene, with benzene again. Both of alkylation and trans-alkylation can be catalyzed by zeolites although the requirement for structure and acidity are special. A patented co-crystallization of ZSM-5/ZAM-11 zeolite was developed for the alkylation process with much better catalytic performance than pure ZSM5, and very desirable resistance to poison such as water and sulfide contained in FCC off-gas. In order to get a proper distribution and strength of acidity, the effect of F addition and hydro-thermal treatment have been employed to improve the acidity of zeolite to suit for the trans-alkylation process. With the development of this advantage technology, the commercialization of this technology in ethyl-benzene production from FCC off-gas is becoming more and more popular in China. Only during 2005, this technology had been adopted by 7 petrochemical companies in China, and there will be another 8 petrochemical companies in China preparing to utilize this technology in 2006-2007. The share of this technology in the ethyl-benzene production will up to 40% in China.

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