

## A Unique Cage-type Zeolite as NH<sub>3</sub>-SCR Catalyst Support

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A joint research consortium, named AICE, which was composed of several automobile companies and academic researchers in Japan has at last found out a unique zeolite, AFX, for a support of NH<sub>3</sub>-SCR copper catalyst, having high Al content in the framework but high stability against severe hydrothermal conditions. AFX zeolite is not novel; it has been known as the same topology of zeolite SSZ-16, but SSZ-16 did not show such a high performance here in our comparative studies. The nature of AFX brought forth by a unique structure-directing agent used for the synthesis of the zeolite, *N,N,N',N'*-tetraethylbicyclo[2.2.2]oct-7-ene-2,3:5,6-dipyrrolidinium ion, called TEBOP, which enables us to distribute Al in an isolated position in the zeolite framework. This talk will demonstrate the catalytic performances and characterization by comparison with CHA SSZ-13 having the same cage-type microstructure in the framework.