

## Improved low temperature activity of $\text{NH}_3$ -SCR over Cu-loaded zeolite catalysts by alkali cocations

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$\text{NO}_x$  in automotive exhaust gas has been successfully removed by selective catalytic reduction (SCR) with ammonia using Cu-ion exchanged zeolite catalysts. In recent years, however, the improvement of low-temperature activity has become a hot issue due to the increasing exhaust emission regulations and the addition of the real-driving emissions (RDE) tests. In this study, we prepared SCR catalysts which improved the low temperature activity by alkali cocation exchange on various Cu/zeolites. In particular,  $\text{Li}^+$  and  $\text{Na}^+$  significantly promoted the low temperature activity and hydrothermal stability, which is an essential factor for automobile SCR catalysts. We investigated the  $\text{NH}_3$ -SCR performance of CHA, AEI, and AFX zeolite catalyst with the content of Al, Cu, and alkali cocations. Among them, there was an optimum region showing the best performance at both low and high temperatures for each catalyst.