

### A study on the performance and characterization of SCR catalyst coated on the metal foam substrate

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To develop a high performance SCR catalyst which is featured such as small volume, low price and rapid temperature response, the NO<sub>x</sub> abatement test of metal foam SCR catalysts was carried out on the atmospheric microreactor. And also, prepared all catalysts were characterized by stereoscopic microscope, Porosimeter, BET, SEM(scanning electron microscope), EDX(energy dispersive x-ray spectrometer), XRF(x-ray fluorescence), ICP(inductively coupled plasma), TGA(thermo gravimetric analysis).

It was shown that the volume of metal foam catalyst could be reduced by one-third of the existing one and the activity of NO<sub>x</sub> removal be better than that of fresh catalyst. We inferred that these results were due to higher surface area per unit volume of catalyst than that of fresh one. And we also anticipate that metal foam SCR catalyst will be able to be applicable for the power plant and incinerator in the near future with the merits of its small volume, rapid temperature response and economic feasibility.