

# **A SYSTEMATIC INVESTIGATION OF PARAMETERS AFFECTING DIESEL NO<sub>x</sub> ADSORBER CATALYST PERFORMANCE**

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NO<sub>x</sub> adsorber catalysts, also called lean NO<sub>x</sub> traps (LNT), have proven to be successful in meeting Japanese LEV and European Level IV emission standards for light-duty passenger cars powered by gasoline direct- injection engines. Much interest has been generated in the last several years regarding the use of NO<sub>x</sub> adsorber catalysts for both light-duty and heavy-duty diesel engines. However, before successful application of this catalyst technology, it is essential to understand the parameters relevant to these diesel exhaust conditions and their implications for the performance of NO<sub>x</sub> adsorber catalysts.

In the current study, we systematically investigated the parameters that could influence the conversion efficiency of NO<sub>x</sub> adsorber catalysts. Results showing the effect of catalyst technology, PGM loading, substrate, temperature, flow rate, and exhaust composition will be reported. Results regarding sulfur poisoning and desulfations of NO<sub>x</sub> adsorber catalysts will also be presented.