CATALYST FOR NITROGEN OXIDES (NOX) REDUCTION IN DIESEL ENGINE EXHAUSTS

TECNOLOGIA PATENTADA

DADES DE CONTACTE:

Research Results Transfer Office-OTRI
University of Alicante
Tel.: +34 96 590 99 59
Email: areaempresas@ua.es
http://innoua.ua.es

RESUM

The research team "Carbon materials and environment" at the Department of Inorganic Chemistry at University of Alicante has synthesised a noble metal-free catalyst for nitrogen oxides (NOx) storage and reduction (NSR catalyst). The catalyst developed consists of a copper-doped mixed oxide with perovskite structure.

Its major application is the removal of NOx gas in oxygen-enriched streams such us the exhaust gases emitted by diesel engines.

AVANTATGES I ASPECTES INNOVADORS

The advantages of this new catalyst formulation are:

- Capability for operating under typical NSR conditions, where the treated gas composition periodically alternates between oxidising and reducing conditions.
- Higher NOx storage capacity per surface area unit (and comparable capacity in mass basis) than conventional noble metal-containing systems.
- Lower cost of the materials in comparison to noble metal-containing formulations.

INNOVATIVE ASPECTS

The main innovative aspect of this approach is that the synthesised material is able to remove NOx in a similar way than noble metal-containing catalysts (the most effective nowadays) but lowering the prize of the materials.

APLICACIONS DE L'OFERTA

This technology is useful for the storage and reduction of nitrogen oxides (NOx) in oxygen-rich gas streams. Specifically, it can be employed in the purification process of exhaust gases in diesel engines.

COL·LABORACIÓ BUSCADA

The research group is looking for automotive industries interested in acquiring the technology for its commercial exploitation. The researchers are also interested in testing a prototype in real conditions, so they are also opened to collaborations for carrying out the scaling-up process.