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- (71) Applicant (for all designated States except US): GM
GLOBAL TECHNOLOGY OPERATIONS, INC.
[US/US]; Legal Staff - Mail Code 482-C23-B21, P.O. Box
300, Detroit, MI 48265-3000 (US).

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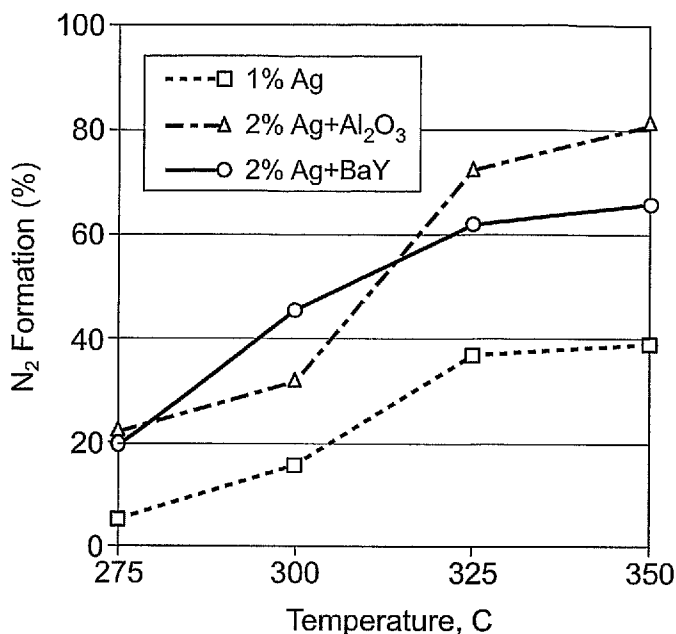
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- (72) Inventor: LEE, Jong-hwan; 2671 Munster Road, Rochester Hills, MI 48309 (US).
- (74) Agent: MARRA, Kathryn, A.; GM Global Technology Operations, Inc., Legal Staff - Mail Code 482-C23-B21, P.O. Box 300, Detroit, MI 48265-3000 (US).
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(54) Title: REDUCTION OF NOX EMISSIONS USING A STAGED SILVER/ALUMINA CATALYST SYSTEM



(57) Abstract: The hydrocarbon-assisted, selective catalytic reduction of Nox constituents in lean-burn engine exhaust is benefited by passage of the exhaust over a staged catalyst bed comprising a first stage of an alumina-supported silver catalyst for oxidation of NO to NO₂ and partial oxidation of added hydrocarbon to an aldehyde. Downstream of the silver catalyst is a second catalyst selected for the reaction of hydrocarbon and aldehyde species with NO₂ to reduce it to nitrogen. Gamma-alumina and BaY zeolite are examples of suitable second stage catalysts.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC(8): B01D 53/56 (2007.01); B01D 53/86 (2007.01) USPC: 423/239.1 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) USPC: 423/239.1 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC: 423/239.1,212;60/286,301,275,286 (see key words below) IPC(8): B01D 53/56 (2007.01); B01D 53/86 (2007.01) Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Electronic Databases Searched: USPTO WEST (PGPUB, EPAB, JPAB, USPT), Thomson dialog, Google patent. Search Terms Used: Y and zeolite, downstream or upstream, alcohol, reactor, nitrogen, catalyst, NOx adj reduction, catalytic adj reduction		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/0004402 A1 (Lee et al.) 06 January 2005 (06.01.2005) abstract; para[0001]-[0003]; [0007]-[0012]; [0020]; [0024]; [0034]-[0035].	1-12
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/>		
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