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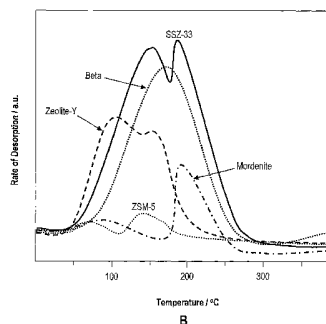
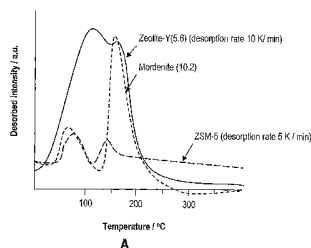
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(54) Title: MOLECULAR SIEVES FOR IMPROVED HYDROCARBON TRAPS



(57) Abstract: Molecular sieves and the use of such materials as hydrocarbon traps, particularly for reducing the emissions associated with the combustion of hydrocarbon fuels are described. Specifically, the use of molecular sieves such as zeolites as adsorbents for hydrocarbon gases, especially exhaust gases such as are formed during the combustion of hydrocarbons, and more particularly to the adsorption of hydrocarbon gases formed during the cold start operation of an internal combustion engine is described. In one embodiment, a method of treating exhaust gas that comprises a hydrocarbon combustion is provided, the method comprising contacting the exhaust gas with a CON topology molecular sieve for a time period effective to facilitate adsorption of the hydrocarbon combustion product by the molecular sieve; passing a purge gas through the molecular sieve to remove adsorbed hydrocarbon combustion product; and contacting the purge gas containing the removed hydrocarbon combustion product with a hydrocarbon conversion catalyst. A system is also provided for treating exhaust gases formed from the combustion of a hydrocarbon in which the system includes an exhaust gas adsorption unit containing an adsorbent CON topology molecular sieve; a catalytic converter unit containing a hydrocarbon conversion catalyst; means for supplying an exhaust gas comprising a hydrocarbon combustion product to the adsorption unit so that the hydrocarbon combustion product is at least partly adsorbed by the molecular sieve; means for transferring the hydrocarbon combustion product from the adsorption unit to the catalytic converter unit wherein the hydrocarbon combustion product is converted to an exhaust emission gas; and means for exhausting the exhaust emission gas from the catalytic converter unit.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,482,692 A (AUDEH et al) 9 January 1996 (09.01.1996), Entire Document.	1-65
A	US 2002/0164283 A (JONES et al) 07 November 2002 (07.11.2002), Entire Document.	1-65
A	US 6,117,411 A (TAKEWAKI et al) 12 September 2000 (12.09.2000), Entire Document.	1-65

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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