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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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(54) Title: REGENERATION OF PLATINUM-GERMANIUM ZEOLITE CATALYST

(57) Abstract: This invention relates to a process for regeneration of a zeolite catalyst, specifically an aluminosilicate zeolite with germanium substituted in the framework for silicon and with platinum deposited on the zeolite. The catalyst may be used in a process for aromatization of alkanes, specifically C₂-C₈ alkanes. The regeneration process 1) removes coke and sulfur from the catalyst via oxidation, 2) redisperses platinum on the surface of the catalyst via chlorine gas, 3) removes chlorine and bind Pt to the surface of the zeolite by steaming, 4) reduces the catalyst in hydrogen, and 5) optionally, resulfides the catalyst. The zeolite may be a MFI zeolite. The catalyst may be bound with an inert material which does not act as a binding site for platinum during the regeneration process, for example, silica.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/25875

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B01J 38/00 (2008.04)

USPC - 502/52, 53, 55

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)

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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)

PubWEST, Google Patents Database, Google Scholar Database

(platinum, germanium, zeolite, catalyst, silicon, chlorine, gas, aromatize, hydrocarbon, alkane, steam, sulfide, MFI, feedstock, oxygen, water, partial pressure)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,040,259 A (Mohr, et al.) 21 Mar 2000 (21.03.2000) column 4, line 64-67, column 5, line 12-35, column 7, line 1-3, line 34-39, line 50-53, column 10, line 15-19, column 12, line 18-19, line 38-39, column 13, line 27-30, column 16, line 13, line 42-48	1-60
Y	US 5,155,074 A (Mohr) 13 Oct 1992 (13.10.1992) column 5, line 35-44, line 52-53, column 6, line 5-28, line 55-56, line 66-68, column 7, line 47-66, column 8, line 20-34, line 65-67, column 9, line 7-9	1-60
Y	US 5,157,201 A (Norris) 20 Oct 1992 (20.10.1992) column 1, line 25-34, column 5, line 14-24, line 31-45, column 6, line 16-18, line 29-32, column 7, line 51-55, line 62-65, column 9, line 19	8-15, 39-46

 Further documents are listed in the continuation of Box C.

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"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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