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Published:

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(54) Title: CRYSTALLINE ALUMINOPHOSPHATE PRODUCTION PROCESS AND CRYSTALLINE ALUMINOPHOSPHATE

(57) Abstract: An industrially advantageous process for production of VPI-5 or its related crystalline aluminophosphates at a high purity and a high yield. At least one hydroxyalkylamine compound represented by the general formula  $NR_1R_2R_3$  (1) (wherein  $R_1$ ,  $R_2$  and  $R_3$  each independently represent hydrogen, a linear or branched alkyl group of 1-4 carbons or a linear or branched hydroxyalkyl group of 1-4 carbons with 1-2 hydroxyl groups, and at least one from among  $R_1$ ,  $R_2$  and  $R_3$  represents a hydroxyalkyl group) is used.



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INTERNATIONAL SEARCH REPORT

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<p><b>A. CLASSIFICATION OF SUBJECT MATTER</b>                  IPC 7 C01B37/04</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>																	
<p><b>B. FIELDS SEARCHED</b></p> <p>Minimum documentation searched (classification system followed by classification symbols)                  IPC 7 C01B</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practical, search terms used)                  WPI Data, PAJ, INSPEC, COMPENDEX, CHEM ABS Data, EPO-Internal</p>																	
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p> <table border="1"> <thead> <tr> <th>Category *</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>DAVIS, M. E. ET AL: "Further studies on the synthesis of VPI - 5" STUDIES IN SURFACE SCIENCE AND CATALYSIS (1991), (CHEM. MICROPOROUS CRYST.), vol. 60, 1991, pages 53-62, XP001134905 cited in the application the whole document</td> <td>1-9, 11-24</td> </tr> <tr> <td>X</td> <td>EP 0 463 793 A (MOBIL OIL CORP) 2 January 1992 (1992-01-02) claims 1-12 page 2, line 23 -page 6, line 4 example 1 table 2</td> <td>1-3,8-14</td> </tr> <tr> <td>A</td> <td>---</td> <td>15,16</td> </tr> <tr> <td></td> <td>---</td> <td>-/--</td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	DAVIS, M. E. ET AL: "Further studies on the synthesis of VPI - 5" STUDIES IN SURFACE SCIENCE AND CATALYSIS (1991), (CHEM. MICROPOROUS CRYST.), vol. 60, 1991, pages 53-62, XP001134905 cited in the application the whole document	1-9, 11-24	X	EP 0 463 793 A (MOBIL OIL CORP) 2 January 1992 (1992-01-02) claims 1-12 page 2, line 23 -page 6, line 4 example 1 table 2	1-3,8-14	A	---	15,16		---	-/--
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A	---	15,16															
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<p><input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.      <input checked="" type="checkbox"/> Patent family members are listed in annex.</p>																	
<p>* Special categories of cited documents :</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"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</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&amp;" document member of the same patent family</p>																	
<p>Date of the actual completion of the international search</p> <p>17 January 2003</p>		<p>Date of mailing of the international search report</p> <p>23/01/2003</p>															
<p>Name and mailing address of the ISA</p> <p>European Patent Office, P.B. 5818 Patentlaan 2                  NL - 2280 HV Rijswijk                  Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,                  Fax: (+31-70) 340-3016</p>		<p>Authorized officer</p> <p>Rigondaud, B</p>															

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 02/08832

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	YAO, SHANGQING ET AL: "Synthesis of large pore molecular sieve VPI - 5 by using various organic amines" CHEMICAL RESEARCH IN CHINESE UNIVERSITIES, vol. 9, no. 1, 1993, pages 1-5, XP008012469 the whole document	1-3,8-14
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