Title: HIGHLY DISPERSED NICKEL HYDROGENATION CATALYSTS AND METHODS FOR MAKING THE SAME

Abstract: A method for production of a nickel/alumina catalyst is provided, using nickel nitrate as the nickel source, involving coating alumina support particles with a nickel containing coating, drying the resulting coated particles, calcining the dried particles, and reducing the resulting calcined particles in a reducing atmosphere, to give the nickel/alumina catalyst, preferably a nickel/alumina catalyst having nickel loadings from 15-25 wt%, an available Ni surface area of at least 123 m²/g Ni, a Ni dispersion of at least 18.5%, and Ni particle size of less than 6 mn.

WO 2008/043060 A3
### A. CLASSIFICATION OF SUBJECT MATTER

**IPC(8)-** B01J 23/755; C01B 3/00 (2008.01)

**USPC -** 502/335

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 - 502/335

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

USPC - 502/335,302, $; 423/654, $; B01J 23/755, $; C01B 3/00, $

Search Terms Below

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

PubWEST (USPT, PGPB, EPAB, JPAB); google.com

Search Terms Used: nickel, alumina, catalyst, calcining, reducing, coating, nickel nitrate, highly dispersed, transition metal, alumina support, citrate

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<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>US 4,490,480 A (Lok et al.) 25 December 1984 (25.12.1984), entire document, especially Abstract; col. 5, ln. 18-24; col. 6, ln. Table 3; col. 8, ln. 32-33</td>
<td>5-7</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,254,763 A (Saleh et al.) 19 October 1993 (19.10.1993), entire document, especially Abstract; col. 4, ln. 4-8; col. 4, ln. 22-27; col. 6, ln. 25-27; col. 9, ln. 37-38</td>
<td>1-4</td>
</tr>
<tr>
<td>A</td>
<td>US 5,977,012 A (Kharas et al.) 02 November 1999 (02.11.1999), entire document, especially Abstract; col. 7, ln. 1-5</td>
<td>5, 6</td>
</tr>
</tbody>
</table>

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

**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

**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

**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

**&** document member of the same patent family

### Date of the actual completion of the international search

05 January 2008 (05.01.2008)

### Date of mailing of the international search report

27 MAR 2008

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
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