13 Jun 02

20020315 10-2

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

162162

(43) International Publication Date
28 June 2001 (28.06.2001)

PCT

(10) International Publication Number
WO 01/45838 A1

(51) International Patent Classification[7]: B01J 21/04, C01F 7/02, B01J 32/00

(21) International Application Number: PCT/US00/34073

(22) International Filing Date:
18 December 2000 (18.12.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/468,177 21 December 1999 (21.12.1999) US
09/482,735 13 January 2000 (13.01.2000) US

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *With international search report.*
— *Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.*

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.

ACTION

WO 01/45838 A1

(54) Title: ALUMINA TRIHYDRATE DERIVED HIGH PORE VOLUME, HIGH SURFACE AREA ALUMINUM OXIDE COMPOSITES AND METHODS OF THEIR PREPARATION AND USE

(57) Abstract: Porous composite particles are provided which comprise an aluminum oxide component, e.g., crystalline boehmite having a crystallite size of from about 20 to about 200 Angstroms and additive component residue, e.g., silicate, phosphate, of a crystal size growth inhibitor, intimately dispersed within the aluminum oxide component. The aluminum oxide component of the composite particles are derived from a mixture of alumina trihydrate (e.g., gibbsite) and an alumina seed component, i.e., active alumina, which are both converted to crystalline boehmite in the presence of the additive component. Also provided is a method for making the composite particles, agglomerate particles derived therefrom, and a process for hydroprocessing petroleum feedstock using the agglomerates.