

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 May 2006 (11.05.2006)

PCT

(10) International Publication Number
WO 2006/048442 A3

(51) International Patent Classification:

B01J 37/08 (2006.01) **B01J 29/12** (2006.01)
B01J 37/30 (2006.01) **C07C 2/58** (2006.01)
B01J 29/068 (2006.01)

(21) International Application Number:

PCT/EP2005/055740

(22) International Filing Date:

3 November 2005 (03.11.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

04078024.9 3 November 2004 (03.11.2004) EP

(71) Applicant (*for all designated States except US*): **ALBEMARLE NETHERLANDS BV** [NL/NL]; Stationsplein 4, NL-1838 LE Amersfoort (NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **VAN BROEKHOVEN, Emanuel Hermanus** [NL/NL]; Trintel 131, NL-1141 DN Monnickendam (NL). **STEENWINKEL, Edgar, Evert** [NL/NL]; Gedempte Voldersgracht 18, NL-2011 WD Haarlem (NL). **BOOMERT, Arjan Peter** [NL/NL]; Leopoldstraat 201, NL-1822 KE Alkmaar (NL). **HARTE, Mark Hendrikus** [NL/NL]; Legerland 54, NL-1541 NG Koog aan de Zaan (NL). **ALFOS - GIMPEL, Danielle** [NL/NL]; Paardenakker 19, NL-16531 SP Wormer (NL).

(74) Agents: **RASSER, Jacobus Cornelis et al.**; Howrey LLP, PO Box 94361, NL-1090 GJ AMSTERDAM (NL).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, 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*

(88) Date of publication of the international search report:
24 August 2006

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.

(54) Title: ALKYLATION CATALYST, ITS PREPARATION AND USE

(57) Abstract: Process for the preparation of a catalyst comprising the steps of: (a) combining solid acid particles with a binder to form a catalyst precursor; (b) calcining the catalyst precursor at a temperature in the range of 400-575°C, (c) impregnating the calcined catalyst precursor with a solution of a Group VIII noble metal and NH₄⁺ ions; and (d) calcining the impregnated particles at a catalyst temperature in the range of 400-500°C. The use of two calcination steps in the above temperature ranges results in alkylation catalysts with improved performance.



WO 2006/048442 A3