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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
20 June 2002 (20.06.2002)

PCT

(10) International Publication Number
WO 02/047817 A3

(51) International Patent Classification[7]: B01J 27/18, C07C 41/03

(21) International Application Number: PCT/EP01/14746

(22) International Filing Date:
13 December 2001 (13.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/737,989 15 December 2000 (15.12.2000) US

(71) Applicant: **SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.** [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL).

(72) Inventor: **EDWARDS, Charles, Lee**; 12526 Piping Rock, Houston, TX 77077 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, 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, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(88) Date of publication of the international search report:
13 March 2003

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.

WO 02/047817 A3

(54) Title: PROCESS OF PREPARING A FLUID RARE EARTH ALKOXYLATION CATALYST

(57) Abstract: Process for the preparation of a fluid rare earth phosphate catalyst composition comprising: a) providing a rare earth salt soluble in active hydrogen containing organic compound at a temperature of less than 120 °C; b) adding and dissolving the rare earth salt in the active hydrogen containing organic compound thereby producing a rare earth/organic solution; and c) adding phosphoric acid to the rare earth/organic solution in a rare earth salt to phosphoric acid molar ratio in the range of 0.7:1 to 1.3:1 thereby producing the fluid rare earth phosphate catalyst composition; and a process for the preparation of alkylene oxide adducts of active hydrogen containing organic compounds, which comprises contacting an alkylene oxide reactant comprising one or more vicinal alkylene with an active hydrogen containing reactant comprising one or more active hydrogen containing organic compounds, in the presence of a catalytically effective amount of such a fluid catalyst composition.