

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 April 2009 (30.04.2009)

PCT

(10) International Publication Number
WO 2009/054876 A1

(51) International Patent Classification:
C07D 301/08 (2006.01) *C07D 301/10* (2006.01)

(21) International Application Number:
PCT/US2008/010111

(22) International Filing Date: 26 August 2008 (26.08.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/977,360 24 October 2007 (24.10.2007) US

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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

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*

(54) Title: DIRECT EPOXIDATION PROCESS USING IMPROVED CATALYST COMPOSITION

(57) Abstract: Catalysts useful for the direct epoxidation of olefins are disclosed. The catalysts comprise a noble metal, lead, bismuth, and a titanium or vanadium zeolite. The noble metal, lead, and bismuth may be supported on the titanium or vanadium zeolite. The catalyst may also be a mixture comprising the titanium or vanadium zeolite and a supported catalyst comprising the noble metal, lead, bismuth, and a carrier. The invention includes a process for producing an epoxide comprising reacting an olefin, hydrogen and oxygen in the presence of the catalyst. The process results in significantly reduced alkane byproduct formed by the hydrogenation of olefin.



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