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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
4 January 2007 (04.01.2007)

PCT

(10) International Publication Number
WO 2007/000396 A1

(51) International Patent Classification:
C07D 301/12 (2006.01)

(21) International Application Number:
PCT/EP2006/063325

(22) International Filing Date: 20 June 2006 (20.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/168,454 29 June 2005 (29.06.2005) US

(71) Applicants *(for all designated States except US)*: **BASF AKTIENGESELLSCHAFT** [DE/DE]; 67056 Ludwigshafen (DE). **THE DOW CHEMICAL COMPANY** [US/US]; 2030 Dow Center, Midland, Michigan 48674 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **SCHINDLER, Götz-Peter** [DE/DE]; Schauenburgweg 9, 68219 Mannheim (DE). **WALSDORFF, Christian** [DE/DE]; Wittelsbachstrasse 61, 67061 Ludwigshafen (DE). **KÖRNER, Reinhard** [DE/DE]; Otto-Dill-Strasse 4, 67227 Frankenthal (DE). **GÖBBEL, Hans-Georg** [DE/DE]; Im Mosenborn 33, 67169 Kallstadt (DE).

(74) Agent: **ISENBRUCK, Günter**; Isenbruck Bösl Hörschler Wichmann Huhn, Theodor-Heuss-Anlage 12, 68165 Mannheim (DE).

(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, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, 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, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, 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, 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*

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:** PROCESS FOR PRODUCING PROPYLENE OXIDE

(57) **Abstract:** The present invention relates to a process for producing propylene oxide comprising (I) reacting propene with hydrogen peroxide in the presence of a catalyst to give a mixture (GI) comprising propylene oxide, unreacted propene, and oxygen; (II) separating propylene oxide from mixture (GI) to give a mixture (GII) comprising propene and oxygen; (III) reducing the oxygen comprised in mixture (GII) at least partially by reaction with hydrogen in the presence of a catalyst comprising Sn and at least one noble metal.

WO 2007/000396 A1