

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

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 September 2003 (12.09.2003)

PCT

(10) International Publication Number
WO 03/074457 A1

(51) International Patent Classification⁷: C07C 39/16,
37/20

(21) International Application Number: PCT/US03/02589

(22) International Filing Date: 30 January 2003 (30.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/683,898 28 February 2002 (28.02.2002) US

(71) Applicant: **GENERAL ELECTRIC COMPANY**
[US/US]; 1 River Road, Schenectady, NY 12345 (US).

(72) Inventors: **KISSINGER, Gaylord Michael**; 516 Pleasant
View Drive, Evansville, Indiana 47711 (US). **KO, Allen**

Wai-Yee; 6801 Laura Court, Evansville, Indiana 47710
(US). **SZILLAT, Michael D.**; 100 Woodward Drive,
Evansville, Indiana 47712 (US). **CARVILL, Brian T.**;
8540 Clarendon Drive, Evansville, Indiana 47725 (US).

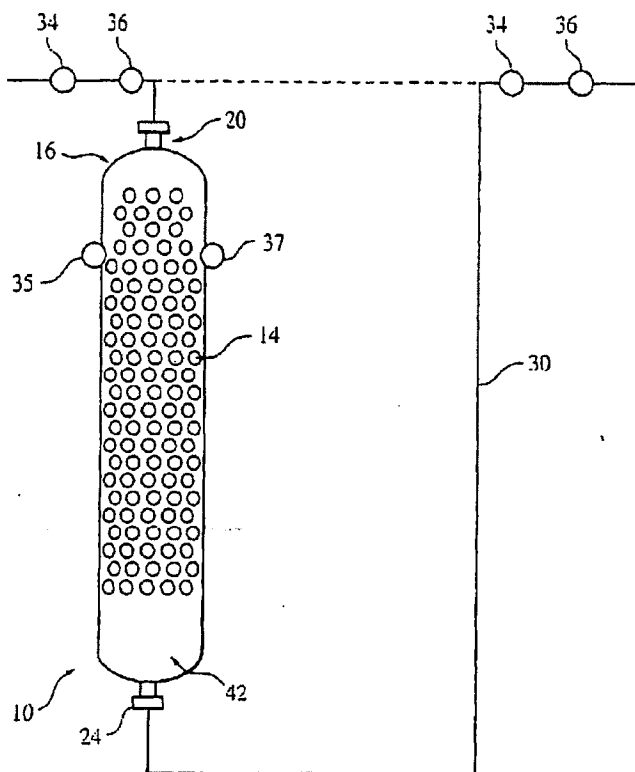
(74) Agent: **WINTER, Catherine J.**; General Electric Com-
pany, 3135 Easton Turnpike (W3C), Fairfield, CT 06828
(US).

(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,
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),

[Continued on next page]

(54) Title: PROCESS, REACTOR AND SYSTEM FOR PREPARING A BISPHENOL



(57) Abstract: A method for producing bisphenol includes introducing a phenol and a ketone into a fixed, supported catalytic bed (14) reactor (10) system (50) in a downflow mode, reacting the phenol and the ketone to form a reaction mixture, and recovering the bisphenol isomer from the reaction mixture. The preferred bisphenol isomer is bisphenol A, or p,p'-bisphenol A, produced from the reaction of phenol and acetone. The reactor (10) for producing the bisphenol A from the reaction of phenol and acetone includes an ion exchange resin catalyst disposed in a bed (14) and packing randomly distributed throughout the ion exchange resin catalyst to improve heat transfer efficiency and reduce compression of the catalyst bed.

WO 03/074457 A1



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,
SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

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.

Published:

— *with international search report*