

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 May 2003 (22.05.2003)

PCT

(10) International Publication Number
WO 03/042282 A1

(51) International Patent Classification⁷: **C08G 65/44**

(21) International Application Number: PCT/US02/34507

(22) International Filing Date: 28 October 2002 (28.10.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/683,037 12 November 2001 (12.11.2001) US

(71) Applicant: **GENERAL ELECTRIC COMPANY**
[US/US]; 1 River Road, Schenectady, NY 12345 (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, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (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.

(72) Inventors: **BIRSAK, Joop**; Waterstraat 2, NL-4661 RA Halstere (NL). **INGELBRECHT, Hugo, Gerard, Eduard**; Nieuwe Heikant 13, B-2190 Essen (BE). **PAR-RILLO, David**; 6005 Banebeary Drive, Schenectady, NY 12303 (US). **PARTHASARATHY, Mukund**; 702 Derzee Court, Delmar, NY 12054 (US). **SINGH, Probjot**; 13 Elm Avenue, Delmar, NY 12054 (US).

(74) Agents: **WINTER, Catherine, J.** et al.; General Electric Company, 3135 Easton Turnpike (W3C), Fairfield, CT 06828 (US).

(54) Title: METHOD OF PREPARING A POLY(ARYLENE ETHER) AND A POLY(ARYLENE ETHER) PREPARED THEREBY

(57) Abstract: A method of preparing a poly(arylene ether) includes oxidatively coupling a monohydric phenol in a reaction solution at a reaction temperature that exceeds the cloud point temperature of the reaction solution. The oxidative coupling occurs in the presence of a metal complex catalyst, and when the catalyst includes an amine ligand, the method facilitates incorporation of the amine ligand into the poly(arylene ether) resin. The amine-incorporated poly(arylene ether) resins prepared by the method are useful in the preparation of higher molecular weight poly(arylene ether) resins and compatibilized blends of poly(arylene ether) resins with other thermoplastics.



WO 03/042282 A1