

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

(19) World Intellectual Property Organization
International Bureau



G00002



(43) International Publication Date
10 October 2002 (10.10.2002)

PCT

(10) International Publication Number
WO 02/079287 A1

- (51) International Patent Classification⁷: **C08F 232/08**, G03F 7/039, 7/004
- (21) International Application Number: PCT/US02/09799
- (22) International Filing Date: 27 March 2002 (27.03.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/280,269 30 March 2001 (30.03.2001) US
- (71) Applicant (*for all designated States except US*): **E. I. DU PONT DE NEMOURS AND COMPANY** [US/US]; 1007 Market Street, Wilmington, DE 19898 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **FEIRING, Andrew, E.** [US/US]; 7 Buckridge Drive, Wilmington, DE 19807 (US). **SCHADT, Frank, L., III** [US/US]; 2407 Delaware Avenue, Wilmington, DE 19806 (US).
- (74) Agent: **SINNOTT, Jessica, M.**; E. I. Du Pont De Nemours And Company, Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, DE 19805 (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, US, 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
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
 - entirely in electronic form (except for this front page) and available upon request from the International Bureau
- 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.*



162162

WO 02/079287 A1

(54) Title: POLYCYCLIC FLUORINE-CONTAINING POLYMERS AND PHOTORESISTS FOR MICROLITHOGRAPHY

(57) Abstract: Polycyclic fluorine-containing polymers and photoresists and associated processes for microlithography in the extreme, far, and near UV are disclosed. The polycyclic fluorine-containing polymer is derived from a repeat unit comprising the polycyclic reaction product of norbornadiene and a fluorolefin. The polymer may also contain a repeat unit derived from one or more additional monomers such as a fluorolefin, specifically tetrafluoroethylene, a fluoroalcohol, or an acrylate.