

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 February 2006 (02.02.2006)

PCT

(10) International Publication Number
WO 2006/012453 A1

(51) International Patent Classification⁷: **C08G 65/42**,
75/23, B01D 71/68

(21) International Application Number:
PCT/US2005/025944

(22) International Filing Date: 21 July 2005 (21.07.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/589,848 22 July 2004 (22.07.2004) US

(71) Applicant (for all designated States except US): **SOLVAY
ADVANCED POLYMERS, L.L.C.** [US/US]; 4500
McGinnis Ferry Road, Alpharetta, GA 30005 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SCHWAB, Thomas,
H.** [US/US]; 6325 Buckingham Place, Cumming, GA
30040 (US).

(74) Agent: **TREANOR, Richard, L.**; Oblon, Spivak, Mc-
Clelland, Maier & Neustadt, P.C., 1940 Duke Street,
Alexandria, VA 22314 (US).

(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, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, 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 "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: POLYSULFONE - POLYETHER BLOCKCOPOLYMERS, PROCESS TO SYNTHESIZE IT, MEMBRANES MADE THEREFROM

(57) Abstract: Block copolymer comprising: - at least one block of a polymer comprising at least 50 mole % of recurring units (R1) formed by the polycondensation reaction between at least one aromatic dihalocompound comprising at least two -S(=O)₂- groups and at least three aromatic rings, and at least one aromatic diol (block (A)), and - at least one block of a polymer comprising at least 50 mole % of recurring units (R2) formed by the polymerization of at least one alkylene oxide (block (B)). Process to synthesize said block copolymer. Polymer composition comprising said block copolymer. Article, in particular membrane, comprising said block copolymer or said polymer composition. Use of said membrane for purifying a liquid or for separating gases.



WO 2006/012453 A1