



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C08G 77/46, 77/452	A1	(11) International Publication Number: WO 97/32917 (43) International Publication Date: 12 September 1997 (12.09.97)
(21) International Application Number: PCT/US97/03365 (22) International Filing Date: 4 March 1997 (04.03.97) (30) Priority Data: 60/012,732 4 March 1996 (04.03.96) US (71)(72) Applicant and Inventor: CZECH, Anna [US/US]; 253 Millington Road, Cortlandt Manor, NY 10566 (US). (74) Agents: BLACK, Donald, T. et al.; Scully, Scott, Murphy & Presser, 400 Garden City Plaza, Garden City, NY 11530 (US).	(81) Designated States: AU, BR, CA, JP, KR, MX, SG, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> <i>* see PF23 and PF24 for applicants of 7/416</i>	
(54) Title: SILICONE AMINOPOLYALKYLENEOXIDE BLOCK COPOLYMERS (57) Abstract The present invention discloses non-hydrolyzable, block, (AB)_nA type, copolymers comprising alternating units of polysiloxane and amino-polyalkyleneoxide and provides a method for the preparation of these copolymers. Also provided is the use of these copolymers as softeners, in particular durable, hydrophilic textile softeners, which improve tactile properties of the textiles substrates treated with the commercial soil release finishes, without substantially detracting from their properties. The copolymers of the present invention have alternating units of polysiloxane [X(C₆H₂₀O)_bR²[(SiO(R¹)₂)₂Si(R¹)₂R²(C₆H₂₀O)_bX] and polyalkyleneoxides [YO(C₆H₂₀O)_dY] wherein R¹ is a C₁ to C₄ alkyl, preferably methyl, R² is a divalent organic moiety, X and Y are divalent organic groups selected from a secondary or tertiary amine and a ring opened epoxide, such that when X is a ring opened epoxide, Y is an amine and vice versa, a = 2 to 4, preferably 2 to 3, b = 0 to 100, d = 0 to 100, b + d = 1 to 100, preferably 10 to 50, and c = 1 to 500, preferably 10 to 100.		