



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : B29B 15/04, B01F 5/02, C08C 1/15, C08J 3/215, 3/22, C08K 3/04, 3/36, C08L 21/00		A1	(11) International Publication Number: WO 99/16600
			(43) International Publication Date: 8 April 1999 (08.04.99)
(21) International Application Number: PCT/US98/20279		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: 28 September 1998 (28.09.98)		Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
(30) Priority Data: 08/941,766 30 September 1997 (30.09.97) US 08/942,449 1 October 1997 (01.10.97) US			
(71) Applicant: CABOT CORPORATION [US/US]; 75 State Street, Boston, MA 02109-1806 (US).			
(72) Inventors: MABRY, Melinda, Ann; 65 Algonquin Road, Newton, MA 02167 (US). WANG, Ting; Apartment F2, 158 Concord Road, Billerica, MA 01821 (US). PODOBNIK, Ivan, Zlatko; Nine Mallard Drive, Hudson, NH 03051 (US). SHELL, James, A.; 2055 Laurel Lake Drive, Suwanee, GA 30024 (US). MORGAN, Allan, Clark; 101R Old Essex Road, Manchester, MA 01944 (US). CHUNG, Bin; 12 Deacon Drive, Nashua, NH 03063 (US). TOKITA, Noboru; 27 Rock Hill Road, Woodbridge, CT 06525 (US).			
(74) Agent: LANDO, Michelle, B.; Cabot Corporation, 157 Concord Road, P.O. Box 7001, Billerica, MA 01821-7001 (US).			
(54) Title: ELASTOMER COMPOSITE BLENDS AND METHODS FOR PRODUCING THEM			
(57) Abstract			
Elastomer composite blends are produced by novel wet/dry mixing methods and apparatus. In the wet mixing step or stage, fluid streams of particulate filler and elastomer latex are fed to the mixing zone of a coagulum reactor to form a mixture in semi-confined flow continuously from the mixing zone through a coagulum zone to a discharge end of the reactor. The particulate filler fluid is fed under high pressure to the mixing zone, such as to form a jet stream to entrain elastomer latex fluid sufficiently energetically to substantially completely coagulate the elastomer with the particulate filler prior to the discharge end. Highly efficient and effective elastomer coagulation is achieved without the need for a coagulation step involving exposure to acid or salt solution or the like. Elastomer composites are produced. Such elastomer composites may be cured or uncured, and combine material properties, such as choice of filler, elastomer, level of filler loading, and macro-dispersion, not previously achieved. The coagulum produced by such wet mixing step, with or without intermediate processing steps, is then mixed with additional elastomer in a dry mixing step or stage to form elastomer composite blends. The additional elastomer to the coagulum may be the same as or different from the elastomer(s) used in the wet mixing step.			