

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

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 June 2004 (10.06.2004)

PCT

(10) International Publication Number
WO 2004/048266 A1

- (51) International Patent Classification⁷: C01B 33/145, C09C 1/30 (74) Agents: WINTER, Catherine, J. et al.; General Electric Company, 3135 Easton Turnpike (W3C), Fairfield, CT 06828 (US).
- (21) International Application Number: PCT/US2003/036198 (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, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 14 November 2003 (14.11.2003) (26) Publication Language: English
- (25) Filing Language: English (84) Designated States (regional): ARIPO patent (BW, 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, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (30) Priority Data: 10/301,903 22 November 2002 (22.11.2002) US
- (71) Applicant (for all designated States except US): GENERAL ELECTRIC COMPANY [US/US]; 1 River Road, Schenectady, NY 12345 (US).
- (72) Inventors; and (75) Inventors/Applicants (for US only): CAMPBELL, John, Robert [US/US]; 41 Pepper Hollow, Clifton Park, NY 12065 (US). RUBINSZTAJN, Slawomir [US/US]; 1105 Highland Park Road, Niskayuna, NY 12309 (US). ANOSTARIO, Joseph, Michael [US/US]; 10 Wilkins Avenue, Albany, NY 12205 (US).
- 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
- 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.



WO 2004/048266 A1

(54) Title: FUNCTIONALIZED COLLOIDAL SILICA, DISPERSIONS AND METHODS MADE THEREBY

(57) Abstract: A composition is provided in the present invention comprising functionalized colloidal silica. The colloidal silica is functionalized with at least one organoalkoxysilane functionalization agent and subsequently functionalized with at least one capping agent. Further embodiments of the present invention include dispersions comprising the functionalized colloidal silica and methods for making.