



(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/US2010/051810(22) International Filing Date:
7 October 2010 (07.10.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/618,484 13 November 2009 (13.11.2009) US(71) Applicant (for all designated States except US): **MIL-LENNIUM INORGANIC CHEMICALS, INC.** [US/US]; 20 Wight Avenue, Suite 100, Hunt Valley, MD 21030 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **CHAPMAN, David, Monroe** [US/US]; 10327 Pine Ridge Drive, Ellicott City, MD 21042 (US).(74) Agent: **SOROCCO, Douglas, J.**; Dunlap Coddling, P.C., P.O. Box 16370, Oklahoma City, OK 73113-2370 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: STABLE SUB-MICRON TITANIA SOLS

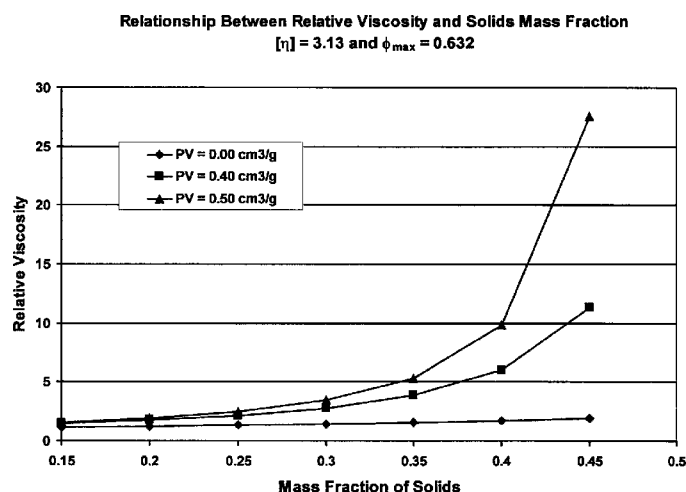


Figure 1

(57) **Abstract:** The present invention is directed to compositions and processes for the production of stable, alkaline, high solids, low viscosity, low surface tension, low flammability, sub-micron titania sols that have minimal offensive odor and methods of their use. Compositions of the present invention include, for example, mixtures of strong and weak organic bases used as dispersants to stabilize the titania sols. The dispersant mixtures have been found to result in relatively high titania solids content, low surface tension, low viscosity suspensions that are low in flammability. Sols produced according to the present invention can be used, for example, in catalytic applications such as catalyst supports for diesel emission control, or in pollutant photocatalyst applications in which it is desirable to have the titania in sol form.