

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 December 2005 (15.12.2005)

PCT

(10) International Publication Number
WO 2005/118724 A1

(51) International Patent Classification⁷: **C09D 5/00**, C08J
7/04, C09D 1/02, 183/02, 183/04, C08G 77/02

PA 15237 (US). **COLTON, James P.**; 145 Autumn Drive,
Trafford, PA 15085 (US).

(21) International Application Number:
PCT/US2005/018626

(74) Agents: **PALLADINO, Donald, R.** et al.; PPG Industries,
Inc., One PPG Place, Pittsburgh, PA 15272 (US).

(22) International Filing Date: 26 May 2005 (26.05.2005)

(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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/575,437 28 May 2004 (28.05.2004) US
11/131,986 18 May 2005 (18.05.2005) US

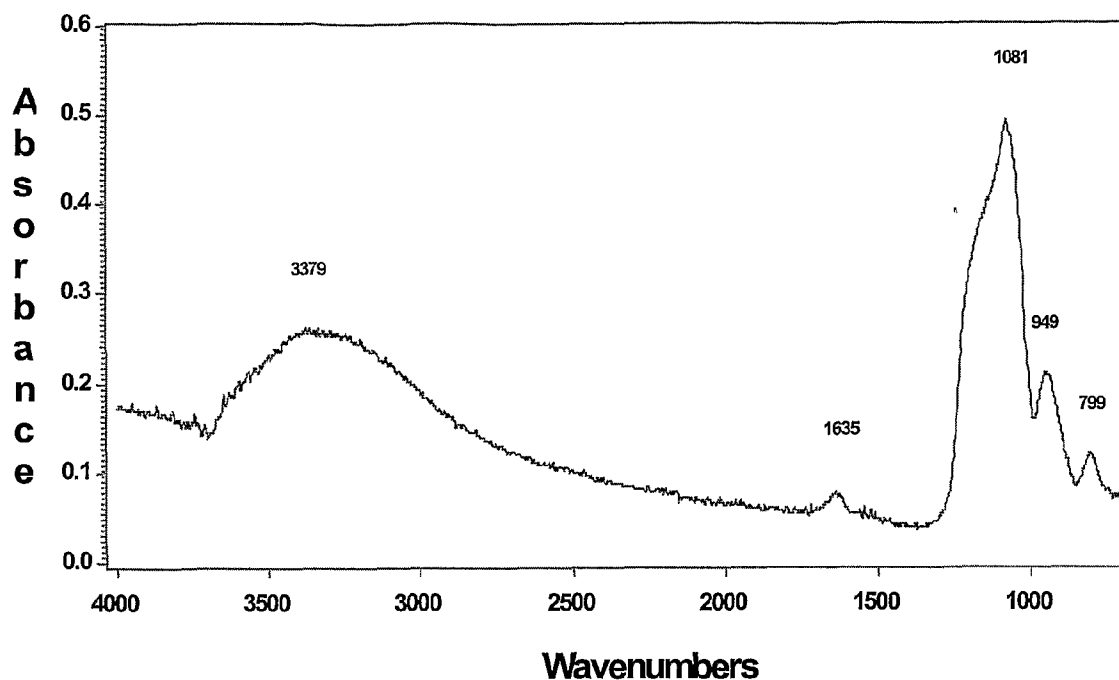
(71) Applicant (for all designated States except US): **PPG
INDUSTRIES OHIO, INC.** [US/US]; 3800 West 143rd
Street, Cleveland, OH 44111 (US).

(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, 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).

(72) Inventors: **NAKAJIMA, Masayuki**; 2604 Glenchester
Road, Wexford, PA 15090 (US). **LIN, Chia-Cheng**; 3127
Tall Oak Drive, Allison Park, PA 15101 (US). **CHENG,
Shan**; 702 Lincoln Club Drive, Apt. 1719, Pittsburgh,

[Continued on next page]

(54) Title: HYDROPHILIC COMPOSITIONS, METHODS FOR THEIR PRODUCTION, AND SUBSTRATES COATED WITH SUCH COMPOSITIONS



(57) Abstract: Liquid compositions are disclosed that include a photocatalytic material and a hydrophilic binder that includes an essentially completely hydrolyzed organosilicate. Also disclosed are methods of making such compositions, methods of coating a substrate with a hydrophilic composition, and substrates coated with such compositions. The compositions may, for example, be embodied as stable one-pack compositions.

WO 2005/118724 A1

**Declaration under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations 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, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, 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, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (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 "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.