

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number
WO 2004/003086 A1

- (51) International Patent Classification⁷: **C09D 5/44**, (74) Agents: **ALTMAN, Deborah M.** et al.; One PPG Place, Pittsburgh, PA 15272 (US).
C25D 13/06
- (21) International Application Number: PCT/US2003/020358
- (22) International Filing Date: 27 June 2003 (27.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 10/184,195 27 June 2002 (27.06.2002) US
- (71) Applicant: **PPG INDUSTRIES OHIO, INC.** [US/US]; 3800 West 143rd Street, Cleveland, OH 44111 (US).
- (72) Inventors: **MCCOLLUM, Gregory J.**; 5130 Brownyn Court, Gibsonia, PA 15044 (US). **MORIARITY, Thomas C.**; 2806 Shamrock Drive, Allison Park, PA 15101 (US). **OLSON, Kevin C.**; 213 Briar Hill Court, Wexford, PA 15090 (US). **SANDALA, Michael G.**; 84 Donna Drive, Pittsburgh, PA 15237 (US). **WANG, Alan E.**; 1032 Old Orchard Drive, Gibsonia, PA 15044 (US). **WILSON, Craig A.**; 4069 Tall Timber Drive, Allison Park, PA 15101 (US). **ZAWACKY, Steven R.**; 124 Old English Road, Pittsburgh, PA 15237 (US).
- (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, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (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).
- 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.*

(54) Title: ELECTRODEPOSITABLE DIELECTRIC COATING COMPOSITIONS TO COAT A SUBSTRATE AND METHODS TO FORM DIELECTRIC COATING

(57) Abstract: The present invention relates to an electrodepositable coating composition having a resinous phase dispersed in an aqueous medium. The resinous phase includes (a) an ungelled, active hydrogen-containing, ionic salt group-containing resin; and (b) a curing agent reactive with the active hydrogens of the resin (a). The resinous phase has a covalently bonded halogen content based on total weight of resin solids present in the resinous phase such that when the composition is electrodeposited and cured, the cured film passes flame resistance testing in accordance with IPC-TM-650, and has a dielectric constant of less than or equal to 3.50. The invention also is directed to a method for forming a dielectric coating on an electroconductive substrate using the electrodepositable coating composition, as well as to a substrate coated with the electrodepositable composition. Electrodepositable dielectric coating composition for coating substrate and method to form dielectric coating

WO 2004/003086 A1