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

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 June 2003 (26.06.2003)

PCT

(10) International Publication Number
WO 2003/051986 A3

(51) International Patent Classification[7]: C08L 27/06, 23/28

(21) International Application Number:
PCT/US2002/040297

(22) International Filing Date:
16 December 2002 (16.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/341,369	14 December 2001 (14.12.2001)	US
10/316,443	11 December 2002 (11.12.2002)	US

(71) Applicant *(for all designated States except US)*: **DUPONT DOW ELASTOMERS L.L.C.** [US/US]; Bellevue Park Corporate Center, 300 Bellevue Parkway, Wilmington, DE 19809 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **MARCHAND, Gary, Robert** [US/US]; 1109 East Eva Street, Gonzalez, LA 70737 (US). **BERARD, Mark, Thomas** [US/US]; 17626 Breman Drive, Baton Rouge, LA 70817 (US).

(74) Agent: **SMITH, Heather, M.**; Dupont Dow Elastomers L.l.c., Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, DE 19805 (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, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, 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, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations 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, 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, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, 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, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*

(88) Date of publication of the international search report:
9 October 2003

(48) Date of publication of this corrected version:
6 May 2004

(15) Information about Correction:
see PCT Gazette No. 19/2004 of 6 May 2004, Section II

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: IMPACT RESISTANT RIGID PVC COMPOSITIONS USING HYDROCARBON RUBBERS AND CHLORINATED POLYETHYLENE AS IMPACT MODIFIERS

(57) Abstract: The present invention is specifically directed to improved polyvinyl chloride compositions having excellent impact strength. In particular, the impact resistant composition comprises a) a vinyl chloride polymer, b) at least one ethylene/alpha-olefin copolymer, said copolymer having a density of 0.858 to 0.91 g/cc and having a melt index from an I_{10} value of 0.1 to an I_2value of 50, preferably from an I_{10} value of 0.1 to an I_2 value of 30, and most preferably from an I_{10} value of 0.1 to an I_2 value of 20, and c) at least one randomly chlorinated olefin polymer having a chlorine content of from 20-40 percent by weight, the feedstock for said chlorinated olefin polymer having a melt index from an I_{10} value of 0.1 to an I_2 value of 10. Optionally, these impact resistant polyvinyl chloride compositions may have inorganic filler levels from 5 to 50 parts per hundred relative to the polyvinyl chloride polymer.

WO 2003/051986 A3