

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 September 2004 (10.09.2004)

PCT

(10) International Publication Number
WO 2004/076512 A2

(51) International Patent Classification⁷: **C08G**

(21) International Application Number:
PCT/US2004/005215

(22) International Filing Date: 23 February 2004 (23.02.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/448,815 21 February 2003 (21.02.2003) US
60/454,030 11 March 2003 (11.03.2003) US

(71) Applicant (for all designated States except US): **GENERAL ELECTRIC COMPAGNY** [US/US]; (a New York Corporation), 1 River Road, Schenectady, NY 12345 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DERUDDER James, Louis** [US/US]; 1622 Raintree Drive, Mount Vernon, IN 47620 (US). **ROSENQUIST Niles, Richard** [US/US]; 732 South Willow Road, Evansville, Indiana (US). **DAVIS, Gary, Charles** [US/US]; 5 Felicia Court, Albany, NY 12205 (US). **PIXTON, Matthew, Robert** [US/US]; 2311 West Ridge Drive, Mount Vernon, IN 47620 (US). **NELSON, Mark, Erik** [US/US]; 310 East

3rd Street, Mount Vernon, IN 47620 (US). **SU, Zhaohui** [CN/CN]; CIAC Building 18 Apr.3-502, Ming Shui Road Changchun, Jilin (CN).

(74) Agents: **WINTER, Catherine, J.** et al.; General Electric Company, 3135 Easton Turnpike W3C, Fairfield, CT 06828 (US).

(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, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, 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, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, 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, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: TRANSPARENT AND HIGH-HEAT POLYCARBONATE-POLYSILOXANE COPOLYMERS AND TRANSPARENT BLENDS WITH POLYCARBONATE AND A PROCESS FOR PREPARING SAME

The effect of Various Phosphorus-based Acids on Haze Formation in PC siloxane Co-polymer on Abusive Molding
(All phosphorus acids evaluated at equivalent molar levels).

	Comp Ex 1	Ex. 1	Ex. 2	Ex. 3	Ex. 4	Ex. 5	Ex. 6
PC siloxane, lot A	100%	100%	100%	100%	100%	100%	100%
H3PO3, 100 x dilution		0.9 ppm	2.25 ppm				
H3PO4, 100 x dilution				1.08 ppm	2.74 ppm		
MZP(monozinc phosphate)						3.24 ppm	8.1 ppm
620 F, std cycle % haze	4.4	2.3	1.8	1.6	1.3	1.4	1.5
620 F, 10 min dwell, % haze	76.1	23.3	1.9	1.1	1.4	1.4	3.9
MVR, 18 min Dwell	11.17	9.21	8.74	8.46	8.50	8.38	7.91
MVR, 6 min Dwell	10.26	9.01	8.47	8.01	7.95	8.08	7.72
300 C, viscosity, P	5516.0	5990.0	6168.0	6316.0	6425.0	6404.0	6626.0
% Change, 30 min, 300 C	-14.0	-13.0	-12.0	-13.0	-12.0	-10.0	-8.5
% haze, autoclave, 24 hrs	8.3	6.1	5.1	4.2	4.5	5.6	5.4
48 hrs	12.4	9.9	8.5	7	8.2	10.3	12.8
72 hrs	13.4	11.6	10.1	8.7	11.7	13.4	15.5
120 hrs	16.5	14.8	16.1	16.3	22.1	25.9	20.6
144 hrs	18.9	20.3	22	22.2	29.3	34.1	21.9
168 hrs	24.6	22.6	23.7	23.8	31.7	36.7	40.6
192 hrs	25.9	23.5	25.2	23.4	31.2	36.4	42.2
216 hrs	28.6	26.1	28.5	26.7	36.3	40.6	48.2
240 hrs	30.1	27.6	30.8	29.1	38.8	43.9	53.5

MW, 240 hrs 20717 20925 20759 20863 20500 20717 20722
(Initial MW, Comp. Ex. 1, 22308)

(57) Abstract: A method is provided for making siloxane polycarbonate copolymers and blends of other polycarbonates with such copolymers wherein the copolymers and blends have excellent transparency and physical characteristic.

WO 2004/076512 A2



Published:

— without international search report and to be republished
upon receipt of that 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.