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(21) International Application Number: PCT/US98/21843 (22) International Filing Date: 15 October 1998 (15.10.98) (30) Priority Data: 08/950,983 15 October 1997 (15.10.97) US (71) Applicant (for all designated States except US): THE DOW CHEMICAL COMPANY [US/US]; 2030 Dow Center, Mid- land, MI 48674 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): CHEUNG, Yunwa, W. [US/US]; Apartment 810, 510 That Way, Lake Jackson, TX 77566 (US). GUEST, Martin, J. [GB/US]; 106 Greenbriar, Lake Jackson, TX 77566 (US). (74) Agent: SPENCER, Lee; Patent Dept., B-1211, 2301 Brazosport Boulevard, Freeport, TX 77541 (US).	(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i>	
(54) Title: THERMOPLASTIC COMPOSITIONS OF INTERPOLYMERS OF α -OLEFIN MONOMERS WITH ONE OR MORE VINYL OR VINYLIDENE AROMATIC MONOMERS AND/OR ONE OR MORE HINDERED ALIPHATIC OR CYCLOALIPHATIC VINYL OR VINYLIDENE MONOMERS BLENDED WITH VINYL HALIDE HOMOPOLYMERS AND COPOLYMERS (57) Abstract The present invention relates to blend compositions comprising: (A) of from 1 to 99 weight percent based on the combined weights of Components A, B and C of at least one substantially random interpolpolymer; and wherein said interpolpolymer: (1) contains of from 0.5 to 65 mole percent of polymer units derived from: (a) at least one vinyl or vinylidene aromatic monomer, or (b) at least one hindered aliphatic vinyl or vinylidene monomer, or (c) a combination of at least one vinyl or vinylidene aromatic monomer and at least one hindered aliphatic vinyl or vinylidene monomer; (2) contains of from 35 to 99.5 mole percent of polymer units derived from at least one aliphatic α-olefin having from 2 to 20 carbon atoms; (3) has a molecular weight (M_n) greater than 1,000; (4) has a melt index (I_2) of from 0.01 to 1,000; (5) has a molecular weight distribution (M_w/M_n) of from 1.5 to 20; and (B) of from 99 to 1 weight percent based on the combined weights of Components A, B and C of one or more vinyl halide homopolymer(s) or copolymer(s); and (C) of from 0 to 70 weight percent based on the combined weights of Components A, B and C of one or more plasticizers. The novel blend compositions provide materials with improved processing/property attributes over the unmodified polymers comprising the blends. The blend compositions can exhibit a unique balance of properties including enhanced modulus and barrier properties, improved tensile strength, radio frequency (rf) scalability, solvent bondability, thermal stability and heat resistance depending upon the selection of the individual blend components and their composition ratios. Additionally, the location and the breadth of the glass transition can be controlled by varying the blend compositions and plasticizer level. Surprisingly blends including a plasticizer show a single phase material from glass transition temperature data analysis.		