



- (51) **International Patent Classification:**
C08F 10/06 (2006.01) *C08F 4/656* (2006.01)
- (21) **International Application Number:**
PCT/US2009/065461
- (22) **International Filing Date:**
23 November 2009 (23.11.2009)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/117,763 25 November 2008 (25.11.2008) US
- (71) **Applicant (for all designated States except US):** UNION CARBIDE CHEMICALS & PLASTICS TECHNOLOGY LLC [US/US]; 2020 Dow Center, Midland, MI 48674 (US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only):** CHEN, Linfeng [US/US]; 11706 Pedernales Falls Lane, Sugar Land, TX 77478 (US).
- (74) **Agent:** BARTHEL, Ted, J.; Whyte Hirschboeck Dudek S.c., 555 East Wells Street, Suite 1900, Milwaukee, WI 53202 (US).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report (Art. 21(3))

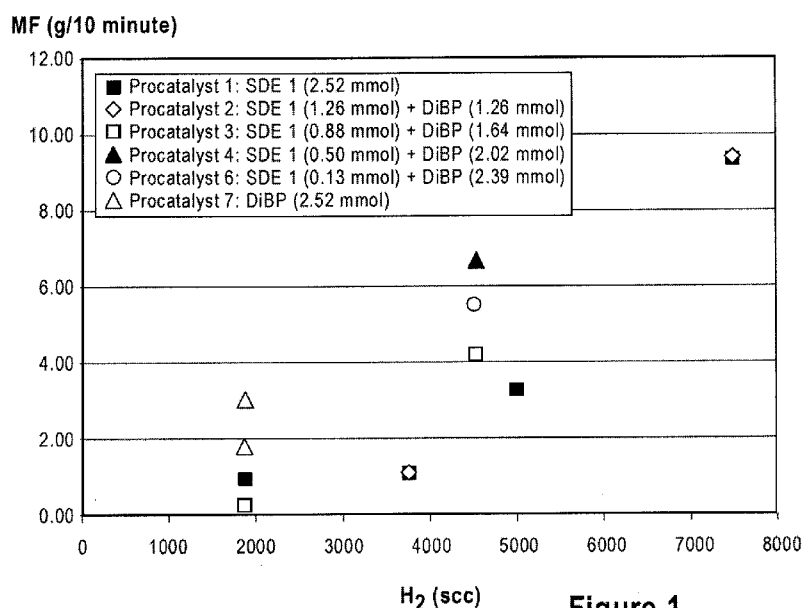
(54) **Title:** PROCATALYST COMPOSITION MULTIPLE INTERNAL DONOR HAVING SILYL ESTER AND METHOD

Figure 1

(57) **Abstract:** Provided is a procatalyst composition containing a multiple internal electron donor with at least two components, one of which is a silyl ester. The other component of the mixed internal electron donor may be an electron donor component. The electron donor component may be an aromatic acid ester, a di-ether, and combinations thereof. Catalyst compositions containing the multiple internal electron donor exhibit improved hydrogen response during olefin polymerization and produce propylene-based polymers with broad molecular weight distribution, high flexural modulus, and high melt flow rate.