

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 July 2003 (03.07.2003)

PCT

(10) International Publication Number
WO 03/054028 A1

- (51) International Patent Classification⁷: **C08F 4/655**
- (21) International Application Number: PCT/EP02/13967
- (22) International Filing Date:
10 December 2002 (10.12.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
101 63 075.1 20 December 2001 (20.12.2001) DE
- (71) Applicant (*for all designated States except US*): **BASELL POLYOLEFINE GMBH** [DE/DE]; Brühler Strasse 60, 50389 Wesseling (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **FÖTTINGER, Klaus** [DE/DE]; Im Sennteich 9, 68199 Mannheim (DE). **SCHNEIDER, Martin-Julius** [DE/DE]; Martin-Greif Strasse 20, 67065 Ludwigshafen (DE). **KARER, Rainer** [DE/DE]; Oskar-Schlemmer-Ring 48, 67657 Kaiserslautern (DE).
- (74) Agent: **BASELL POLYOLEFINE GMBH**; Intellectual Property, Carl-Bosch-Strasse 38, F 206, 67056 Ludwigshafen (DE).
- (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, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, 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).
- Published:**
— *with international search 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.*

(54) Title: CATALYST SYSTEMS OF THE ZIEGLER-NATTA TYPE AND THEIR PREPARATION

(57) Abstract: The present invention relates to catalyst systems of the Ziegler-Natta type, to a process for preparing them, to their use for the polymerization of olefins and to ethylene copolymers which can be prepared using this catalyst system.



WO 03/054028 A1