

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
21 September 2023 (21.09.2023)



(10) International Publication Number
WO 2023/178116 A1

(51) International Patent Classification:

C08F 4/02 (2006.01) C08F 4/655 (2006.01)
C08F 4/659 (2006.01) C08F 4/24 (2006.01)
C08F 10/00 (2006.01) C01B 33/14 (2006.01)
C08F 4/6592 (2006.01)

(21) International Application Number:

PCT/US2023/064352

(22) International Filing Date:

14 March 2023 (14.03.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/320,579 16 March 2022 (16.03.2022) US

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(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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,
LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG,
NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS,
RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, CV,
GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,
SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ,
RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,
LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,
SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, 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))*

Published:

— *with international search report (Art. 21(3))*

(54) Title: SILICA-SUPPORTED POLYOLEFIN CATALYST SYSTEM

(57) Abstract: Olefin catalyst systems comprising silica supports are provided. For example, in one embodiment, the olefin polymerization catalyst system comprises a silica support, a catalyst precursor compound, and an activator. The silica support comprises a plurality of silica gel particles. Each particle comprises a rigid network of amorphous silica. The particles are spherical, single gel particles that have an average aspect ratio of about 1.2 or less, an average pore volume of from about 1.4 ml/g to about 3 ml/g, an average surface area from about 200 m²/g to about 950 m²/g, and a median particle size from about 4 μm to about 100 μm.

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