

Title (en)
SINGLE SITE CATALYST SUPPORTATION

Title (de)
SINGLE-SITE-KATALYSATORUNTERSTÜTZUNG

Title (fr)
SUPPORT DE CATALYSEUR À SITE UNIQUE

Publication
EP 3303416 A4 20180620 (EN)

Application
EP 16803914 A 20160429

Priority
• US 201562171602 P 20150605
• EP 15177105 A 20150716
• US 2016030036 W 20160429

Abstract (en)
[origin: WO2016195868A1] This invention relates to catalyst supports having high surface area ($SA \geq 400 \text{ m}^2/\text{g}$), low pore volume ($PV \leq 2 \text{ mL/g}$), a specific mean pore diameter range ($PD = 1 - 20 \text{ nm}$), and high average particle size ($PS \geq 30 \mu\text{m}$), supported catalysts, and supportation processes; and further relates to: high porosity ($\geq 15\%$) and/or low pore diameter ($PD < 165 \mu\text{m}$) propylene polymers; bimodal polymers and/or heterophasic copolymers based on the high porosity and/or low pore diameter propylene polymers; propylene polymerization processes using the supported catalysts and/or to prepare the high porosity and/or low pore diameter propylene polymers, bimodal polymers and/or heterophasic copolymers.

IPC 8 full level
B01J 21/08 (2006.01); **B01J 31/16** (2006.01); **C08F 4/659** (2006.01); **C08F 210/06** (2006.01)

CPC (source: CN EP)
C08F 10/06 (2013.01 - EP); **C08F 110/06** (2013.01 - CN); **C08F 4/65912** (2013.01 - EP); **C08F 4/65927** (2013.01 - EP);
C08F 2410/01 (2013.01 - EP); **C08F 2410/06** (2021.01 - EP)

C-Set (source: CN EP)
CN
C08F 110/06 + C08F 4/65916

EP
1. **C08F 210/06 + C08F 4/65916**
2. **C08F 210/06 + C08F 2/001**
3. **C08F 210/06 + C08F 210/02 + C08F 2500/04 + C08F 2500/12**
4. **C08F 110/06 + C08F 2500/03 + C08F 2500/12 + C08F 2500/15 + C08F 2500/18**
5. **C08F 110/06 + C08F 2500/04 + C08F 2500/12 + C08F 2500/15 + C08F 2500/18**
6. **C08F 110/06 + C08F 4/6492**

Citation (search report)
• [X] US 2007179051 A1 20070802 - MIHAN SHAHRAM [DE], et al
• [X] US 2003171207 A1 20030911 - SHIH KENG-YU [US], et al
• [X] EP 1205493 A1 20020515 - ATOFINA RES [BE]
• [X] CN 102731691 B 20140205 - CHINA PETROLEUM & CHEMICAL, et al
• [I] CHEN ET AL: "Preparation and characterization of agglomerated porous hollow silica supports for olefin polymerization catalyst", JOURNAL OF NON-CRYSTALLINE SOLIDS, NORTH-HOLLAND PHYSICS PUBLISHING, AMSTERDAM, NL, vol. 353, no. 11-12, 24 March 2007 (2007-03-24), pages 1030 - 1036, XP022001394, ISSN: 0022-3093, DOI: 10.1016/J.JNONCRY SOL.2007.01.024
• [A] VON HOHENESCHE C D F ET AL: "Agglomerated non-porous silica nanoparticles as model carriers in polyethylene synthesis", JOURNAL OF MOLECULAR CATALYSIS A: CHEMICAL, ELSEVIER, AMSTERDAM, NL, vol. 221, no. 1-2, 1 November 2004 (2004-11-01), pages 185 - 199, XP004570926, ISSN: 1381-1169, DOI: 10.1016/J.MOLCATA.2004.07.008
• See references of WO 2016195868A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
WO 2016195868 A1 20161208; CN 107709379 A 20180216; EP 3303416 A1 20180411; EP 3303416 A4 20180620

DOCDB simple family (application)
US 2016030036 W 20160429; CN 201680032434 A 20160429; EP 16803914 A 20160429