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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 December 2013 (05.12.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/181274 A3

(51) **International Patent Classification**:
G01N 11/04 (2006.01) *C08L 23/06* (2006.01)

(21) **International Application Number**:
PCT/US2013/043154

(22) **International Filing Date**:
29 May 2013 (29.05.2013)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:

61/654,018	31 May 2012 (31.05.2012)	US
13/660,747	25 October 2012 (25.10.2012)	US
13/660,750	25 October 2012 (25.10.2012)	US
13/660,777	25 October 2012 (25.10.2012)	US

(71) **Applicant**: **CHEVRON PHILLIPS CHEMICAL COMPANY LP** [US/US]; 10001 Six Pines Drive, The Woodlands, TX 77380 (US).

(72) **Inventors**: **INN, Yongwoo**; 217 Sagebrush Drive, Bartlesville, OK 74006 (US). **DESLAURIERS, Paul, J.**; 6831 E 84 St N, Owasso, OK 74055 (US). **YANG, Qing**; 2917 Montrose Drive, Bartlesville, OK 74006 (US). **SUKHADIA, Ashish, M.**; 2550 Regency Road, Bartlesville, OK 74006 (US). **ROHLFING, David, C.**; 488 E. Fawn Ridge Trail, Bloomington, IN 47408 (US). **MAEGER, Pamela, L.**; 2917 Versailles Place, Bartlesville, OK 74006 (US).

(74) **Agents**: **CARROLL, Rodney, B.** et al.; Conley Rose, P.C., 5601 Granite Parkway, Suite 500, Plano, TX 75024 (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, BN, 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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, 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, 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))*

[Continued on next page]

(54) **Title**: CONTROLLING MELT FRACTURE IN BIMODAL RESIN PIPE

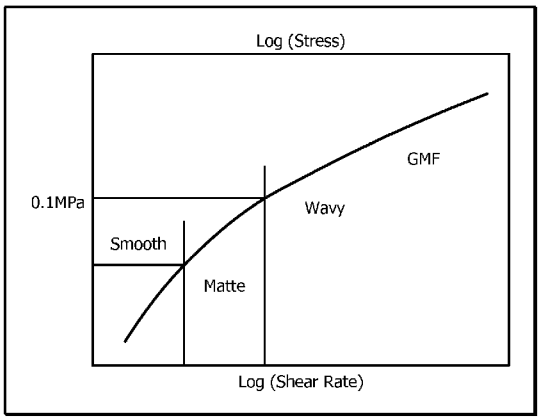


FIG. 1B

(57) **Abstract**: A method of improving processing of polyethylene resins comprising obtaining a plurality of multimodal metallocene-catalyzed polyethylene samples measuring the shear stress as a function of shear rate for the plurality of multimodal metallocene-catalyzed polyethylene samples using capillary rheometry wherein the measuring yields values for a magnitude of slip-stick, a stress for smooth to matte transition, and a shear rate for smooth to matte transition; and identifying from the plurality of multimodal metallocene-catalyzed polyethylene samples individual multimodal metallocene-catalyzed polyethylene resins having a reduced tendency to melt fracture characterized by a magnitude of slip-stick greater than about 300 psi, a stress for smooth to matte transition greater than about 90 kPa, and a shear rate for smooth to matte transition greater than about 10 s^{-1}.

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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

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

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
15 May 2014

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2013/043154

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01N11/04 C08L23/06
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G01N C08L C08F B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MAHMOUD ANSARI ET AL: "Melt fracture of two broad molecular weight distribution high-density polyethylenes", POLYMER ENGINEERING & SCIENCE, vol. 52, no. 4, 16 April 2012 (2012-04-16) , pages 795-804, XP055110091, ISSN: 0032-3888, DOI: 10.1002/pen.22144	45,62
Y	page 796, column 2, paragraph 2 Capillary Rheometry; page 797 - page 801 figures 2-5; tables 1,3-4	1-44, 46-61, 63,64
Y	US 2004/198911 A1 (VAN DUN JOZEF J [US] ET AL) 7 October 2004 (2004-10-07) paragraphs [0018], [0032], [0148] - [0150]; tables 6-7,10-11,19	46-61, 63,64

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
27 March 2014	03/04/2014

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Bockstahl, Frédéric

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Form PCT/ISA/210 (second sheet) (April 2005)

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Information on patent family members

International application No
PCT/US2013/043154

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