

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 December 2006 (14.12.2006)

PCT

(10) International Publication Number
WO 2006/132995 A3

(51) International Patent Classification:

A61K 9/16 (2006.01) C08K 3/00 (2006.01)
B01F 5/04 (2006.01) C08K 3/20 (2006.01)
B05D 5/08 (2006.01) C08L 23/06 (2006.01)
B29B 9/06 (2006.01) C08L 23/12 (2006.01)
B29C 47/00 (2006.01) C08L 23/18 (2006.01)
B60C 1/00 (2006.01) C09K 3/00 (2006.01)
C08J 3/00 (2006.01)

(21) International Application Number:

PCT/US2006/021521

(22) International Filing Date: 2 June 2006 (02.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/687,987 7 June 2005 (07.06.2005) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
29 March 2007

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: PARTICLE SIZE, PERCENT DRAG EFFICIENCY AND MOLECULAR WEIGHT CONTROL OF BULK POLYMER POLYMERIZED POLYALPHAOLEFINS USING HIGH SHEAR MATERIAL PROCESSORS

(57) Abstract: High shear materials processing produces polymer drag reducing agent (DRA) slurries without cryogenic temperatures or conventional grinding. The homogenizing or size reduction, as well as controlled molecular weight reduction, of polymer such as poly(alpha-olefins), is achieved by the use of pre-ground polymer and at least one liquid, non-solvent for the polymer DRA in a high shear materials processor such as a homogenizer. In one non-limiting embodiment of the invention, the homogenizing is conducted at ambient temperature. Examples of suitable non-solvents include water and non-aqueous non-solvents including, but not necessarily limited to, alcohols, glycols, glycol ethers, ketones, and esters, having from 2-6 carbon atoms, and combinations thereof. The polymeric DRA may be homogenized to an average particle size of 300 microns or less.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/21521

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61K 9/16(2007.01);B01F 5/04(2007.01);B05D 5/08(2007.01);B29B 9/06(2007.01);B29C 47/00(2007.01);B60C 1/00(2007.01);C08J 3/00(2007.01);C08K 3/00(2007.01),3/20(2007.01);C08L 23/06(2007.01),23/12(2007.01),23/18(2007.01);C09K 3/00(2007.01)

USPC: 523/175,319,323;524/543,570,579,582,585,586

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)

U.S. : 523/175, 319, 323; 524/543, 570, 579, 582, 585, 586

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,894,088 A (MOTIER et al.) 17 May 2005 (17.05.2005), See the entire document.	1-19
Y		1-19



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

05 December 2006 (05.12.2006)

Date of mailing of the international search report

04 JAN 2007

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