

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 May 2006 (18.05.2006)

PCT

(10) International Publication Number
WO 2006/052981 A3

(51) International Patent Classification:

C08L 51/00 (2006.01) *C08F 290/06* (2006.01)
C09D 151/00 (2006.01) *C08F 293/00* (2006.01)
C08F 265/04 (2006.01) *C08F 290/00* (2006.01)

(21) International Application Number:

PCT/US2005/040459

(22) International Filing Date:

8 November 2005 (08.11.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10/983,540 8 November 2004 (08.11.2004) 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
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

12 October 2006

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: GRAFT COPOLYMERS WITH SEGMENTED ARMS

(57) Abstract: Graft copolymers with segmented (or block) arms and a process for preparing the same. Such polymers are particularly useful in formulating air-dry clear coat and color coat lacquers used in automotive refinishing.



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INTERNATIONAL SEARCH REPORT

application No
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A. CLASSIFICATION OF SUBJECT MATTER
 INV. C08L51/00 C09D151/00 C08F265/04 C08F290/06 C08F293/00
 C08F290/00

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)
 C08L C09D C08F B32B

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 practical, search terms used)
 EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 013 682 A (DOW CORNING CORPORATION) 28 June 2000 (2000-06-28) examples 4-7 page 8, lines 45,46 page 8, line 50 - page 11, line 44 abstract page 2, line 54 - page 5, line 41 page 13, lines 38-43 page 2, lines 52,53 page 13, lines 56,57,48-52 ----- -/--	1,2, 4-17, 22-27

Further documents are listed in the continuation of Box C. See patent family annex.

- * Special categories of cited documents :
- *A* document defining the general state of the art which is not considered to be of particular relevance
 - *E* earlier document but published on or after the international filing date
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 - *&* document member of the same patent family

Date of the actual completion of the international search 10 August 2006	Date of mailing of the international search report 18/08/2006
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Hammond, A
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INTERNATIONAL SEARCH REPORT

Application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 472 463 B1 (MA SHEAU-HWA) 29 October 2002 (2002-10-29) column 2, lines 28-37,45,46 column 6, lines 35-50 column 2, lines 4-63 column 4, lines 14-40; examples 1,2,4,6,7 column 7, lines 56-67 column 3, lines 7-54 column 6, lines 24-32 -----	1-25
X	US 5 852 123 A (HUYBRECHTS ET AL) 22 December 1998 (1998-12-22) column 3, lines 1-10,16-39 column 3, line 50 - column 4, line 50 column 4, lines 64-67 column 8, lines 16-24; example 1 examples -----	1-27
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INTERNATIONAL SEARCH REPORT

Application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 12, 5 December 2003 (2003-12-05) & JP 2004 300413 A (MITSUI CHEMICALS INC), 28 October 2004 (2004-10-28) abstract	1-17, 22-27
A	----- WO 95/21205 A (E.I. DU PONT DE NEMOURS AND COMPANY) 10 August 1995 (1995-08-10) abstract; claims 1-19	1-27
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A	----- EP 1 396 504 A (MITSUI CHEMICALS, INC) 10 March 2004 (2004-03-10) paragraph [0008]; claims 1-8; examples	1-27
A	----- US 6 117 958 A (ITTEL ET AL) 12 September 2000 (2000-09-12) abstract; claims 1-3	18-21

INTERNATIONAL SEARCH REPORT

application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US2005 /040459

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-17,22-25

A composition comprising a graft copolymer with segmented arm(s), wherein the graft copolymer has a polymeric backbone and segmented arm(s) formed of at least 2 polymeric segments, grafted onto the backbone as described in the application claim 1.

2. claims: 18-21

An independent staged polymerisation process which is not dependent on any previous application claim, for producing graft copolymers as described in the application claim 18.

3. claims: 26-27

A coated and cured substrate as described in the application claim 26.

INTERNATIONAL SEARCH REPORT
Information on patent family members

application No
PCT/US2005/040459

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