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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- 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:
24 September 2009

(54) Title: CATIONIC POLYMERIC FLUORINATED ETHER SILANE COMPOSITIONS AND METHODS OF USE

(57) Abstract: A polymer is provided comprising a first pendant group selected from at least one of a perfluorinated ether group or a perfluoroalkanesulfonamido group, a second pendant group comprising an ammonium group, wherein the second pendant group is free of silicon, and a third pendant group comprising an ammonium group and a reactive siliconcontaining group. A composition comprising the polymer is provided. The polymer and composition are useful for protecting a substrate, for example, to render the substrate oil repellent, water repellent, or both, or to provide stain repellency to the substrate.



WO 2009/073547 A3

A. CLASSIFICATION OF SUBJECT MATTER*C08F 214/18(2006.01)i*

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)

IPC 8: C08F 14/18, 114/18, 214/18

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)

eKOMPASS, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US4645813 A (Nalco Chemical Company) 24 Feb. 1987 Whole document	1-3, 13-15, 19-23, 25
A	US6540866 B1 (Institute of Microelectronics) 01 Apr. 2003 Whole document	1-3, 13-15, 19-23, 25
A	US2004/44139 A1 (Werner, M.A et al.) 04 Mar. 2004 Whole document	1-3, 13-15, 19-23, 25
A	US5086123 A (Minnesota Mining and Manufacturing Company) 04 Feb. 1992 Whole document	1-3, 13-15, 19-23, 25

 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 application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

15 JULY 2009 (15.07.2009)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 65400866 B1	01.04.2003	None	
US 2004-0044139 A1	04.03.2004	AU 2003-249037 A1 AU 2003-249037 A1 EP 1551915 B1 EP 1551915 A1 JP 2005-537359 A KR 10-2005-0059105 A US 6887927B2 WO 2004-020513 A1	19.03.2004 11.07.2003 12.09.2007 13.07.2005 08.12.2005 17.06.2005 03.05.2005 11.03.2004
US 5086123A1	04.02.1992	EP 0154460 A3 EP 0154460 B1 EP 0154460 A2 JP 06-057781 B2 JP 60-215042 A JP 1925866 C JP 6057781 B KR 10-1992-0004894 B1 US 5216085 A	30.04.1986 04.07.1990 11.09.1985 03.08.1994 28.10.1985 25.04.1995 03.08.1994 22.06.1992 01.06.1993
US 4645813A1	24.02.1987	None	

Box No. 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.: 9, 17-18
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:

The said claims refer to the claims that are not drafted in accordance with the second and third sentences of Rule 6.4(a).

3. Claims Nos.: 4-8, 10-12, 16, 24
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. 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:

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 and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.