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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: POLYMER-CONTAINING DETERGENT COMPOSITIONS AND THEIR USE

(57) Abstract: A detergent composition includes a polymer in combination with a surfactant and/or a builder and adjunct ingredients. The polymer may provide improved grease cleaning, stain removal, clay suspension, and/or suds boosting benefits. In addition, the polymer may provide a synergistic benefit when employed with a lipase.



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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. C11D3/37 C11D3/386 C11D3/00		
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) C11D		
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		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/00760 A (ECOLAB INC) 4 January 2001 (2001-01-04) page 3, line 12 - page 4, line 20; claims; examples 12,13 page 13, line 24 - page 14, line 14	1-12,16, 18-23
X	EP 0 786 514 A (UNILEVER N.V; UNILEVER PLC) 30 July 1997 (1997-07-30) page 2, line 5 - line 8; claims; examples	1-12,16, 18-23
X	US 5 981 460 A (DODD ET AL) 9 November 1999 (1999-11-09) column 7, line 8 - column 8, line 17; claims; examples	1-12,16, 18-23
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.		
<input checked="" type="checkbox"/> 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	*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	
E earlier document but published on or after the international filing date	*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	
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*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.	
O document referring to an oral disclosure, use, exhibition or other means	*&* document member of the same patent family	
P document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search <div style="text-align: center; font-weight: bold;">14 September 2006</div>	Date of mailing of the international search report <div style="text-align: center; font-weight: bold;">16/04/2007</div>	
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 <div style="text-align: center; font-weight: bold;">Hillebrecht, Dieter</div>	

INTERNATIONAL SEARCH REPORT

International 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	EP 1 101 857 A (NATIONAL STARCH AND CHEMICAL INVESTMENT HOLDING CORPORATION) 23 May 2001 (2001-05-23) claims; example 4 -----	1-12,16, 18-23
X	WO 91/09932 A (UNILEVER PLC; UNILEVER N.V) 11 July 1991 (1991-07-11) claims -----	1-12,16, 18-23
X	WO 03/060054 A (NATIONAL STARCH AND CHEMICAL INVESTMENT HOLDING) 24 July 2003 (2003-07-24) page 1, line 15 - line 18; claims; examples -----	1-12,16, 18-23
X	WO 00/22078 A (THE PROCTER & GAMBLE COMPANY; PANANDIKER, RAJAN, KESHAV; LEUPIN, JENNI) 20 April 2000 (2000-04-20) page 2, line 6 - line 14; claims; examples -----	1-12,16, 18-23

INTERNATIONAL SEARCH REPORT

International 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.:
1-12, 16, 18-23

Remark on Protest

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

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-12,16,18-23

Detergent compositions comprising a polymer showing improved grease removal and having a specified grease cleaning performance index

2. claims: 13,14,16, 18-23

Detergent compositions comprising an anionic surfactant and a polymer, having a specified clay suspension index.

3. claims: 15,16,18-22,24

Detergent composition comprising an anionic surfactant and a polymer and having a specified suds boosting index.

4. claims: 17-23

Detergent composition comprising a lipase and a polymer having a PEG backbone.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/020823

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