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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)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

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(54) Title: RAPID TEMPORARY TOOTH WHITENING COMPOSITION

(57) Abstract: A composition for the rapid, temporary whitening of teeth comprising an adhesive material and whitening particulates.

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# INTERNATIONAL SEARCH REPORT

|                   |                |
|-------------------|----------------|
| Intern            | Application No |
| PCT/US2004/026421 |                |

**A. CLASSIFICATION OF SUBJECT MATTER**  
**IPC 7 A61K7/16**

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 7 A61K**

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, EMBASE, BIOSIS, CHEM ABS 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          | <p>DATABASE WPI<br/> Derwent Publications Ltd., London, GB; AN<br/> 2002-671681<br/> XP002305980 "Coating agent for whitening teeth"<br/> &amp; KR 2002 021 446 A (LG CHEM INVESTMENT LTD /LG HOUSEHOLD &amp; HEATHCARE LTD)<br/> 21 March 2002 (2002-03-21)</p> | <p>1-7,<br/> 9-11,<br/> 14-22</p> |
| Y          | <p>abstract</p>                                                                                                                                                                                                                                                  | <p>8</p>                          |
| Y          | <p>-----<br/> US 2003/068284 A1 (DIRKSING ROBERT STANLEY ET AL) 10 April 2003 (2003-04-10)<br/> paragraphs [0008], [0043], [0054]; claim 1<br/> -----<br/> -/--</p>                                                                                              | <p>8</p>                          |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in 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  
"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)  
"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

**25 November 2004**

Date of mailing of the international search report

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## INTERNATIONAL SEARCH REPORT

Intern al 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. |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
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| X          | EP 0 342 746 A (UNILEVER PLC ; UNILEVER NV<br>(NL)) 23 November 1989 (1989-11-23)<br>examples 1,5<br>-----                                                                                                                                                                                                         | 1,2,7                 |
| X          | EP 0 786 245 A (SANGI KK)<br>30 July 1997 (1997-07-30)<br>example 2<br>-----                                                                                                                                                                                                                                       | 1,2,7                 |
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| A          | NIWA M ET AL: "POLISHING AND WHITENING<br>PROPERTIES OF TOOTHPASTE CONTAINING<br>HYDROXYAPATITE"<br>JOURNAL OF MATERIALS SCIENCE. MATERIALS IN<br>MEDICINE, CHAPMAN AND HALL, LONDON, GB,<br>vol. 12, no. 3, March 2001 (2001-03),<br>pages 277-281, XP001050900<br>ISSN: 0957-4530<br>the whole document<br>----- | 1-22                  |

# INTERNATIONAL SEARCH REPORT

Ir

tional application No.  
PCT/US2004/026421**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.:

1-22 (partly)

**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: 1-22 (partly)

A rapid tooth whitening composition comprising an adhesive and a whitening particulate comprising a calcium phosphate; a dental strip comprising said composition; a liquid tooth whitening composition comprising said composition; a method for whitening the surface of a tooth comprising applying said composition to a surface of a tooth.

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2. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising titanium oxide; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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3. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising aluminium oxide; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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4. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising tin oxide; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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5. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising calcium oxide; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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6. claims: 11-12,14-19,21-22 (partly)

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising magnesium oxide; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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## 7. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising polyethylene; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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## 8. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising polypropylene; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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## 9. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising a copolymer of ethylene/propylene; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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## 10. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising PTFE; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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## 11. claims: 11-12,14-19,21-22 (partly)

A rapid tooth whitening composition comprising a siloxane pressure sensitive adhesive and a whitening particulate comprising polyhexafluoropropene; a method for imparting whiteness to a tooth in a mammal, said method comprising applying to the tooth said composition.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/026421

| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
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Information on patent family members

International Application No  
PCT/US2004/026421

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