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- 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))

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(54) Title: COMPOSITION AND METHODS FOR IMPROVING SKIN APPEARANCE

(57) Abstract: Skin conditioning compositions comprising a C4 to C30 monoalkyl-, dialkyl-, monoalkanoyl- or dialkanoyl- substituted isohexide are found to exhibit a marked effect on skin hydration and barrier function homeostasis thereby improving skin appearances.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/055357**A. CLASSIFICATION OF SUBJECT MATTER***A61K 31/34(2006.01)i, A61K 31/045(2006.01)i, A61K 8/49(2006.01)i, A61P 17/00(2006.01)i, A61Q 17/02(2006.01)i, A61Q 19/02(2006.01)i, A61Q 19/00(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)

A61K 31/34; A61K 7/02; A61K 8/33; A61K 8/34

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(KIPO internal) & Keywords: isohexide, isosorbide

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 59-175408 A (NIPPON SAAFUAKUTANTO KOGYO KK) 04 October 1984	1-2, 5, 8-9, 13, 28-30
X	See example 1, claim 1	3-4, 6-7, 10-12
A	US 2006-0257340 A1 (XINA NAIR) 16 November 2006 See claims 1, 6-7	1-13, 28-30
A	US 2007-0088099 A1 (LEON MENTINK et al.) 19 April 2007 See claims 14, 21	1-13, 28-30

☐ 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

13 JULY 2011 (13.07.2011)

Date of mailing of the international search report

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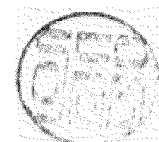
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/055357**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.: 14-27
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 14-27 pertain to a method for treatment of the human by therapy, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
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 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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/055357

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 59-175408 A	04.10.1984	None	
US 2006-0257340 A1	16.11.2006	CA 2513949 A1 EP 1592397 A1 EP 1592397 B1 JP 2006-516605 A WO 2004-069221 A1	19.08.2004 09.11.2005 31.03.2010 06.07.2006 19.08.2004
US 2007-0088099 A1	19.04.2007	CA 2546107 A1 CN 1882665 A EP 1685201 A1 FR 2862310 A1 JP 2007-511631 A KR 10-2007-0008522 A WO 2005-052075 A1	09.06.2005 20.12.2006 02.08.2006 20.05.2005 10.05.2007 17.01.2007 09.06.2005