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(81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(88) **Date of publication of the international search report:**
24 April 2014

(54) **Title:** SILICONE HYDROGEL CONTACT LENSES

(57) **Abstract:** Silicone hydrogel contact lenses are produced without using volatile organic solvents to extract materials from the polymerized contact lens bodies, and instead are washed with aqueous liquids. The silicone hydrogel contact lenses so produced have ophthalmically wettable lens surfaces such that less than five percent of a batch of twenty or more such silicone hydrogel contact lenses have visually identifiable non-wetting spots when the contact lenses are located on eyes of subjects.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/26212

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C08G 77/04; G02C 7/04; B29C 39/00 (2012.01)

USPC - 528/25; 351/160H; 249/63

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)

USPC: 528/25; 351/160H; 249/63

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 528/10; 523/106, 107; 524/837; 249/119, 127 (text search) Find search terms below

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Electronic Database Searched: PUBWEST (PGPB,USPT,USOC,EPAB,JPAB), Google. Search Terms Used manufactur\$ contact lens same hydrogel, Hydrogel Contact Lens, high water content, silicone hydrogel, contact lense, siloxane monomer, vinyl near5 cross\$

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2010/0201009 A1 (Bruce et al.) 12 August 2010 (12.08.2010) entire document especially abstract; claim 15; para [0014]; [0022]; [0051]-[0056]; [0096]; [0098]	1-3 and 14-17
Y	US 2008/0048350 A1 (Chen et al.) 28 February 2008 (28.02.2008) especially para [0131]; [0168]	1-3 and 14-17
Y	US 6,019,472 A (Koester et al.) 01 February 2000 (01.02.2000) especially abstract; col 19, ln 56-67	1-3 and 14-17
Y	US 4,921,205 A (Drew Jr. et al.) 01 May 1990 (01.05.1990) especially col 4, ln 64 to col 5, ln 4	3 and 17
A	US 2009/0039535 A1 (Nicolson et al.) 12 February 2009 (12.02.2009) especially para [0005]-[0007]; [0071]; [0198]; [0568]	1-3 and 14-17
A	US 4,153,641 A (Deichert et al.) 08 May 1979 (08.05.1979) entire document especially abstract; col 5, ln 50 to col 14; example 3	1-3 and 14-17

 Further documents are listed in the continuation of Box C.

* 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 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

24 May 2012 (24.05.2012)

Date of mailing of the international search report

08 JUN 2012

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/26212

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007/0104611 A1 (Marmo et al.) 10 May 2007 (10.05.2007) para [0078]; [0076]; claism 7-8	1-3 and 14-17
A	US 2009/0018233 A1 (Nunez et al.) 15 January 2009 (15.01.2009) entore docuement	1-3 and 14-17

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/26212

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.:
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.: 4-13 and 18-20
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 additional fees, this Authority did not invite payment of additional fees.
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.