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(54) Title: POLYURETHANE HYDROGEL CONTACT LENS

(57) Abstract: A prepolymer is prepared by reacting a mixture containing (a) at least one multifunctional compound, (b) at least one diisocyanate, and (c) at least one diol. The diol has a weight average molecular weight of at most 6000. The prepolymer, when reacted with an excess of water, forms a hydrogel polymer. The mixture of the prepolymer and water may be reaction molded, and used to form a contact lens.

INTERNATIONAL SEARCH REPORT

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PCT/EP 01/07160

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C08G18/10 C08G18/66 C08G18/79 G02B1/04

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 C08G G02B

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)

WPI Data, EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 539 135 A (ESSILOR INTERNATIONAL) 13 July 1984 (1984-07-13) page 2, line 6 -page 6, line 20; claims 1,3-7,12; example 8 ---	1, 3, 13, 25
X	EP 0 189 484 A (ASAHI DENKA) 6 August 1986 (1986-08-06) page 2, line 5 -page 9, line 4; claims; example 3 ---	1, 3, 13, 25
X	US 3 719 050 A (ASAO ET AL) 6 March 1973 (1973-03-06) column 1, line 41 -column 2, line 19 column 6, line 41 - line 49; claims 1,13 --- -/--	1, 3, 13, 25

Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

<p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*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)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p>	<p>*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</p> <p>*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</p> <p>*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.</p> <p>*G* document member of the same patent family</p>
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Date of the actual completion of the international search 15 January 2002	Date of mailing of the international search report 24/01/2002
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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 Bourgonje, A
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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	US 4 810 582 A (GOULD ET AL) 7 March 1989 (1989-03-07) column 1, line 23 -column 2, line 53; claim 1; examples 2,3 ---	1
A	JOURNAL OF APPLIED POLYMER SCIENCE, vol. 59, no. 3, 18 January 1996 (1996-01-18), pages 459-466, XP000556508 New York, US page - ---	1
A	US 4 886 866 A (BRAATZ ET AL) 12 December 1989 (1989-12-12) cited in the application column 2, line 7 -column 6, line 17; claims 1-7 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 01/07160

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
FR 2539135	A	13-07-1984	FR 2539135 A1	13-07-1984
			CA 1250685 A1	28-02-1989
			DE 3461717 D1	29-01-1987
			EP 0117768 A1	05-09-1984
			JP 60006718 A	14-01-1985
			US 4644033 A	17-02-1987
			<hr/>	
EP 189484	A	06-08-1986	JP 1919631 C	07-04-1995
			JP 4071433 B	13-11-1992
			JP 61014279 A	22-01-1986
			AT 43855 T	15-06-1989
			DE 3570889 D1	13-07-1989
			EP 0189484 A1	06-08-1986
			WO 8600328 A1	16-01-1986
			US 4816509 A	28-03-1989
<hr/>				
US 3719050	A	06-03-1973	NONE	
<hr/>				
US 4810582	A	07-03-1989	US 4798876 A	17-01-1989
<hr/>				
US 4886866	A	12-12-1989	US 5039458 A	13-08-1991
			US 5169720 A	08-12-1992
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