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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*

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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(54) Title: METHOD OF MAKING AN ELECTRET

(57) Abstract: A method of making an electret that includes contacting a porous substrate that includes polymer with a composition that includes solvent capable of swelling the polymer, removing the solvent from the substrate, and contacting the substrate with water in a manner sufficient to impart an electret charge to the substrate.



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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 02/25422

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H01G7/02

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 B29B D04H D01G D01D B32B B01D B01B B05D B01J C09J C01B D01F  
C07D B03C B29C D05D H01G D06C B05B A23F D06P

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.
A	US 6 123 752 A (ANGADJIVAND SEYED ET AL) 26 September 2000 (2000-09-26)	1
Y	column 7, line 8-31	1, 4, 11
Y	column 3, line 14-20	19, 20
Y	abstract; claim 1	22
Y	the whole document	15, 18-22
A	column 4, line 2-17	2, 12
A	column 7, line 10-31	14
A	claim 1	18
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A	US 6 110 588 A (PEREZ MARIO A ET AL) 29 August 2000 (2000-08-29)	1
Y	column 9, line 17-45	1, 4, 11
Y	column 8, line 55-57	1
Y	column 1, line 58-65	22
Y	column 3, line 54-60	19, 20
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☒ 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

29 March 2004

Date of mailing of the international search report

06/04/2004

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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 02/25422

## 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 4 588 537 A (KLAASE PETRUS T A ET AL) 13 May 1986 (1986-05-13)	1
Y	column 5, line 9-14	1
A	US 6 030 906 A (HASSENBOEHLER CHARLES B ET AL) 29 February 2000 (2000-02-29)	1
Y	column 3, line 20-25	1
Y	US 4 734 227 A (SMITH RICHARD D) 29 March 1988 (1988-03-29)	1
A	claims 1,7; table 1	1,6-10, 14
A	EP 1 126 072 A (STORK BRABANT BV) 22 August 2001 (2001-08-22)	3
Y	claims 1,4	3
A	the whole document	1-24
A	US 4 650 506 A (ZELINKA RICHARD L ET AL) 17 March 1987 (1987-03-17)	1-24
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Y	page 7, line 10-30	3
X	US 6 237 595 B1 (MILLER JOEL W ET AL) 29 May 2001 (2001-05-29)	15,23
X	column 3, line 23-28,30-40,48-60; claims 1,5,9,10,6,12	15,16, 18-24
Y	column 3; claims 1,5,9,10,6,12	3,15, 18-22
A	US 5 906 743 A (JAMESON LEE KIRBY ET AL) 25 May 1999 (1999-05-25)	1
A	column 1, line 15-20 the whole document	1,6,7

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

1. Claims: 1,2,4,5,8-11,14,17-22

A method for producing an electret on a substrate by contacting the substrate with a composition comprising a solvent capable of swelling a polymer, and evaporating the solvent.

2. Claims: 3,6,7,12,13,14,17,19,20,21,22,25,26,27,28,29

A method of making an electret by treating a porous substrate with a composition comprising supercritical fluid and additive.

3. Claims: 15,16,17,18,19,20,21,22,23,24

An electret comprising a porous substrate comprising a polymer where no greater than 0.75 by weight extractable hydrocarbon based on the weight of polymer in the substrate.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 02/25422

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/US 02/25422

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Information on patent family members

International Application No

PCT/US 02/25422

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