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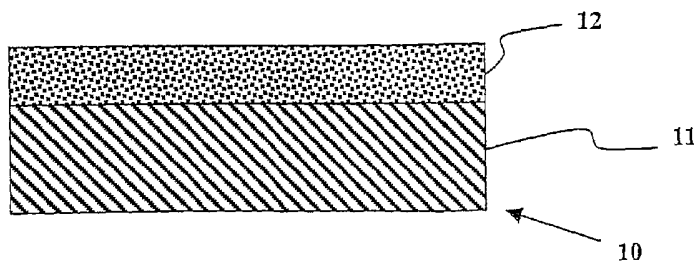
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(54) Title: AN ULTRAHIGH-SELECTIVITY OXYGEN ENRICHMENT FILLED ELASTOMERIC SILICONE POLYMER MEMBRANE INCORPORATING NANOFILLERS



(57) Abstract: A semipermeable separation element (10) comprises (a) a porous substrate (11), and (b) a film (12) formed on said microporous substrate (11), the film (12) comprising a silicone elastomer and a nanoparticle filler. The film (12) preferably has an oxygen enrichment selectivity of at least 30, or even 60, over nitrogen. Methods of making and using the same and filter cartridges incorporating the same are also described.

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **B01D 53/22** (2006.01)

 USPC: 95/45,54;96/4,11,12,13,14;427/245,372.2,385.5
 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)
 U.S. : 95/45,54; 96/4,11,12,13,14;427/245,372.2,385.5; 55/495

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	JP 58-95524 (KURARAY CO LTD) 07 June 1983 (07.06.1983), Figure 1 and the English language abstract.	1,2,6-8,13,14 and 18-20
Y	US 6,503,294 B2 (YOSHIKAWA et al) 07 January 2003 (07.01.2003), column 5, lines 25-40, column 6, lines 35-39 and column 14, line 64 to column 15, line 51.	3-5,9,10 and 15-17
Y	JP 59-69105 (SHIN ETSU CHEM CO LTD) 19 April 1984 (19.04.1984), the English language abstract.	3,4,9,10,15 and 16
A	US 2003/0089228 A1 (KALPRATHIPANJA et al) 15 May 2003 (15.05.2003), the entire document.	5 and 17
A	US 6,447,856 B1 (MEAGHER et al) 10 September 2002 (10.09.2002), the entire document.	1-20
A	FR 2 776 534 (SEB SA) 01 October 1999 (01.10.1999), the English language abstract.	1-20

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"I"	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
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"O" document referring to an oral disclosure, use, exhibition or other means		
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