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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification<sup>5</sup> :</b> C08F 6/28, 6/04, C08J 3/09 C08J 5/12	<b>A3</b>	<b>(11) International Publication Number:</b> WO 94/05706
<b>(21) International Application Number:</b> PCT/US93/07725 <b>(22) International Filing Date:</b> 20 August 1993 (20.08.93)		<b>(43) International Publication Date:</b> 17 March 1994 (17.03.94)
<b>(30) Priority data:</b> 07/936,446 28 August 1992 (28.08.92) US <b>(71) Applicant:</b> E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US). <b>(72) Inventors:</b> CAVANAUGH, Robert, John ; 124 Bunting Drive, Wilmington, DE 19808 (US). TUMINELLO, William, Howard ; 712 Fawn Road, Newark, DE 19711-2411 (US). <b>(74) Agents:</b> SIEGELL, Barbara, C. et al.; E.I. du Pont de Nemours and Company, Legal/Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).		<b>(81) Designated States:</b> CA, JP, KR, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). <b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> <b>(88) Date of publication of the international search report:</b> 11 May 1994 (11.05.94)
<b>(54) Title:</b> PURIFICATION OF FLUOROPOLYMERS		
<b>(57) Abstract</b> <p>A process for purifying fluoropolymers by contacting them at temperatures above 140 °C with a liquid perfluorinated cycloalkane. The resulting polymers are particularly useful where polymers with reduced impurities are desirable, such as in medical devices and in parts for the semiconductor manufacturing industry. The liquid perfluorinated cycloalkanes improve the adhesion of fluoropolymer to themselves and other materials.</p>		

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 93/07725

A. CLASSIFICATION OF SUBJECT MATTER IPC 5 C08F6/28 C08F6/04 C08J3/09 C08J5/12		
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 5 C08F C08J		
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)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP,A,0 472 908 (DAIKIN INDUSTRIES, LIMITED) 4 March 1992 cited in the application see the whole document ---	1-15
Y	US,A,4 940 072 (PELLMAN ET AL.) 10 July 1990 see column 5, line 12 - line 23; claims ---	1-15
A	EP,A,0 056 896 (E.I.DU PONT DE NEMOURS AND COMPANY) 4 August 1982 see page 3, line 1 - page 9, line 28 ---	1-15
P,Y	WO,A,93 05100 (E.I.DU PONT DE NEMOURS AND COMPANY) 18 March 1993 see the whole document ---	16-30
	-/--	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> 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 undermind 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  25 March 1994		Date of mailing of the international search report  18. 04. 94
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  Kaumann, E

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## INTERNATIONAL SEARCH REPORT

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.
Y	FR,A,2 285 227 (PRODUITS CHIMIQUES UGINE KUHLMANN) 16 April 1976 see page 2, line 32 - page 3, line 32; claims ---	16-30
A	WO,A,92 10532 (VASCUTEK LIMITED) 25 June 1992 see page 7, line 14 - page 8, line 19; claims ---	16-30
A	US,A,2 774 705 (R.A. SMITH) 18 December 1956 see column 3, line 41 - line 75 -----	16-30

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## INTERNATIONAL SEARCH REPORT

International application No.

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**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:

1. Claims 1-15 : Purification process
2. Claims 16-30 : Process for adhering

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 93/07725

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US-A-2774705		NONE	