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(71) Applicant (for all designated States except US): **E. I. DU PONT DE NEMOURS AND COMPANY** [US/US]; 1007 Market Street, Wilmington, Delaware 19898 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CREAZZO, Joseph, Anthony** [US/US]; 5 Quail Court, Wilmington, Delaware 19810 (US). **NAPPA, Mario, Joseph** [US/US]; 3 Oakridge Court, Newark, Delaware 19711 (US). **SIEVERT, Allen, Capron** [US/US]; 215 Rhett Lane, Elkton, Maryland 21921 (US). **SWEARINGEN, Ekaterina, N.** [RU/US]; 1302 North Rodney Street, Wilmington, Delaware 19806 (US).

(74) Agents: **MALONEY, Daniel, Mark** et al.; E. I. du Pont de Nemours and Company, Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, Delaware 19805 (US).

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(54) Title: METHODS FOR MAKING FOAMS USING BLOWING AGENTS COMPRISING UNSATURATED FLUOROCARBONS

(57) Abstract: Disclosed herein are blowing agents comprising fluorocarbons and/or hydrofluorocarbons useful in foamable compositions. Also disclosed are methods for forming a foam comprising the aforementioned blowing agents.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2006/042635

A. CLASSIFICATION OF SUBJECT MATTER
INV. C08J9/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
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)

EPO-Internal, WPI Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/256594 A1 (SINGH RAJIV R [US] ET AL) 23 December 2004 (2004-12-23)	1,3-5, 7-10,18, 23,24
Y	examples 4,5	1,2,6, 11-17, 19-22
	claims 16-26	
Y	----- DATABASE WPI Week 199333 Derwent Publications Ltd., London, GB; AN 1993-261758 XP002467615 & JP 05 179043 A (DAIKIN KOGYO KK) 20 July 1993 (1993-07-20) abstract ----- -/--	1,2,6, 11-17, 19-22

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

7 February 2008

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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

Oudot, René

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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 5 037 572 A (MERCHANT ABID N [US]) 6 August 1991 (1991-08-06) column 2, lines 15-36 column 3, lines 37-56 claims 1,13 -----	1,3,7,18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2006/042635

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.:
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:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an 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 reportcovers 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.:

1-24

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-24

A method of forming a foam characterized by the use of a blowing agent as defined in claim 1.

2. claims: 25,26

A method for lowering the GWP of a foaming method.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/042635

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004256594 A1	23-12-2004	NONE	
JP 5179043 A	20-07-1993	NONE	
US 5037572 A	06-08-1991	NONE	