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(71) Applicant *(for all designated States except US)*: **GREAT LAKES CHEMICAL CORPORATION** [US/US]; One Great Lakes Boulevard, West Lafayette, IN 47906 (US).

(72) Inventors; and

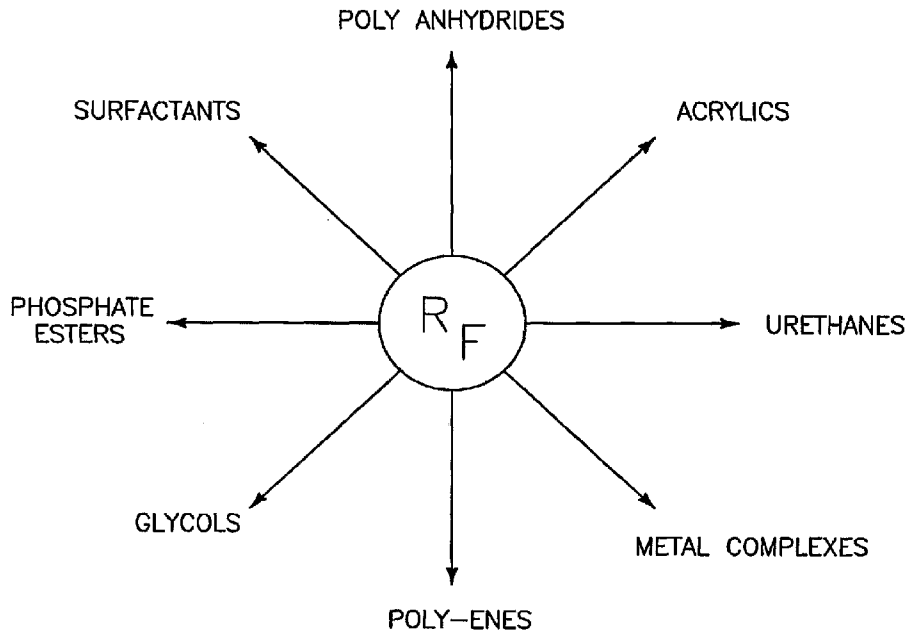
(75) Inventors/Applicants *(for US only)*: **JACKSON, Andrew** [US/US]; 3346 Whirl Away Court, West Lafayette, IN 47906 (US). **SHARMA, Vimal** [IN/US]; 2101 Cumberland Avenue #5104, West Lafayette, IN 47906 (US). **EDWARDS, E., Bradley** [US/US]; 3704 Woodcliff Drive, Lafayette, IN 47905 (US). **BOGGS, Janet** [US/US]; 3902 West Offield Monument Road, Crawfordsville, IN 47933 (US). **HEDRICK, Vicki** [US/US]; 9262 South 300 East, Brookston, IN 47923 (US). **BRANDSTADTER, Stephan** [US/US]; 8008 N. Illinois Street, Indianapolis, IN 46260 (US). **CHIEN, John** [US/US]; 961 Marwyck Street, West Lafayette, IN 47906 (US). **NORMAN, Edward** [US/US]; 942 St. Matthews Road, Chester Springs, PA 19425 (US). **KAUFMAN, Robert** [US/US]; 8129 Stanford Ave., St. Louis, MO 63130 (US). **AMEDURI, Bruno** [FR/FR]; 26 Rue Louis Roumieux, F-34000 Montpellier (FR). **KOSTOV, George** [FR/FR]; App 103, Res Le Mas Vaneau, 189, Rue Edmond Lautard, F-34080 Montpellier (FR).

(74) Agent: **HYTA, Robert, C.**; Wells St. John P.S., 601 W. First Ave., Suite 1300, Spokane, Washington 99201 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY,

[Continued on next page]

(54) Title: PRODUCTION PROCESSES AND SYSTEMS, COMPOSITIONS, SURFACTANTS MONOMER UNITS, METAL COMPLEXES, PHOSPHATE ESTERS, GLYCOLS, AQUEOUS FILM FORMING FOAMS AND FOAM STABILIZERS



(57) Abstract: R_F-compositions including surfactants, foam stabilizers, monomers, polymers, urethanes, intermediates, metal complexes, phosphate esters as well as telomerization methods are provided.

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TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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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))*

— *of inventorship (Rule 4.17(iv))*

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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(88) **Date of publication of the international search report:**
12 June 2008

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/019355

A. CLASSIFICATION OF SUBJECT MATTER
INV. C07C311/09 C07C317/18 C07C19/075 C07C19/10 C07C19/16
C07C21/18 C07C22/02 C07C43/13 C07C69/653 C07F9/09
C07F9/14

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)
C07C C07F

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, PAJ, CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 2007/016359 A (GREAT LAKES CHEMICAL CORP [US]; JACKSON ANDREW [US]; SHARMA VIMAL [US]) 8 February 2007 (2007-02-08) claims	1-72
Y	US 3 759 981 A (BONNER HAGER R ET AL) 18 September 1973 (1973-09-18) the whole document	1-18
Y	US 4 089 804 A (FALK ROBERT A) 16 May 1978 (1978-05-16) the whole document	1-18, 64-72
Y	JP 08 045066 A (FUJI PHOTO FILM CO LTD) 16 February 1996 (1996-02-16) the whole document	64-72

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[X] Further documents are listed in the continuation of Box C.

[X] 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	Date of mailing of the international search report
1 February 2008	22/04/2008

Name and mailing address of the ISA/	Authorized officer
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	Bedel, Christian

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/019355

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97/05211 A (ELECTRIC POWER RES INST [US]) 13 February 1997 (1997-02-13) page 13; tables See entry 19 page 20; tables see entry 5	19-21
X	US 5 028 724 A (IVANKOVITS JOHN C [US] ET AL) 2 July 1991 (1991-07-02) column 2, line 20 - line 62 column 3, line 44 - line 59 column 8 - column 11; examples claims 1,2	55-63
X	US 3 925 438 A (BRECHT HEINZ ET AL) 9 December 1975 (1975-12-09) the whole document	37-45
X	US 5 107 033 A (PECHHOLD ENGELBERT [US]) 21 April 1992 (1992-04-21) the whole document	19-36, 46-54
A	EP 1 296 182 A (EASTMAN KODAK CO [US]) 26 March 2003 (2003-03-26) the whole document	1-18
A	US 2004/094510 A1 (PARENT MICHAEL J [US] ET AL) 20 May 2004 (2004-05-20) the whole document	1-18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/019355

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.:

1-72

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: 1-72

the compositions comprising -CF2-CH2-CH(CF3)-

1.1. claims: 1-18

The surfactant and foam stabilizer comprising a hydrophyle group

1.2. claims: 19-36

The monomer and coresponding polymer

1.3. claims: 37-45

The urethane of formula Rf(Rt)nQu

1.4. claims: 46-54

The glycol of formula Rf(Rt)nQh

1.5. claims: 55-63

The metal complex Rf(Rt)nQmc

1.6. claims: 64-72

The phosphate ester Rf(Rt)nQpe

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2. claims: 73-101

the composition comprising Rf(Rt)nQg and telomerization process for making them

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/019355

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