



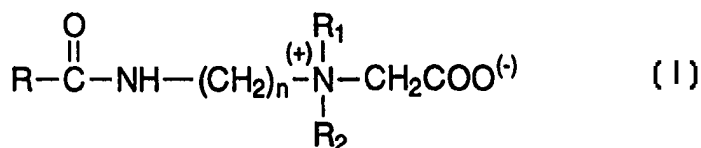
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : <b>C11D 1/94 // C11D 1/90, 1/34, 1/04</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 98/20093</b> (43) International Publication Date: 14 May 1998 (14.05.98)</p>
<p>(21) International Application Number: PCT/JP97/04024 (22) International Filing Date: 5 November 1997 (05.11.97) (30) Priority Data: P 9602328 5 November 1996 (05.11.96) ES (71) Applicant (for all designated States except US): KAO CORPORATION [JP/JP]; 14-10, Nihonbashi-Kayabacho 1-chome, Chuo-ku, Tokyo 103 (JP). (72) Inventors; and (75) Inventors/Applicants (for US only): GONZALEZ, Josep Maria [ES/ES]; Kao Corporation, S.A., Puig dels Tudons, Barbera del Valles, 10, E-08210 Barcelona (ES). BERMEJO, Maria José [ES/ES]; Kao Corporation, S.A., Puig dels Tudons, Barbera del Valles, 10, E-08210 Barcelona (ES). BARCELO, Rosa Maria [ES/ES]; Kao Corporation, S.A., Puig dels Tudons, Barbera del Valles, 10, E-08210 Barcelona (ES). VILARET, Josep [ES/ES]; Kao Corporation, S.A., Puig dels Tudons, Barbera del Valles, 10, E-08210 Barcelona (ES). SISCART, Nuria [ES/ES]; Kao Corporation, S.A., Puig dels Tudons, Barbera del Valles, 10, E-08210 Barcelona (ES).</p>	<p>(74) Agents: FURUYA, Kaoru et al.; Nihonbashi TM Building, 1-8-11, Nihonbashi-Horidomecho, Chuo-ku, Tokyo 103 (JP). (81) Designated States: BR, CN, ID, JP, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 20 August 1998 (20.08.98)</p>	

(54) Title: CONCENTRATED AQUEOUS BETAINNE-TYPE SURFACTANT COMPOSITIONS AND PROCESS FOR THEIR PREPARATION

## (57) Abstract

This invention provides concentrated aqueous betaine-type surfactant compositions having reduced viscosity and a low gel point. The composition according to the invention comprises a betaine compound having formula (I), in which R is a long C<sub>7</sub>-C<sub>24</sub> alkyl or alkenyl chain; R<sub>1</sub> and R<sub>2</sub> are, independently, a short-chained C<sub>1</sub>-C<sub>4</sub> alkyl; and n is a number of from 1 to 5; and at least one fluidizing additive selected from the group consisting of (i) dimers of fatty acids and (ii) phosphoric esters of fatty alcohols or polyethoxylated fatty alcohols, having the formula: (R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>-O)<sub>x</sub>-P(O)-(OH)<sub>y</sub>, in which R is a C<sub>8</sub>-C<sub>24</sub> alkyl or alkenyl chain being linear or branched; n is a number of from 0 to 10; and x and y are independently, a number of 1 or 2, provided that the sum in total of x and y should be equal to 3, the composition containing a dry residue of at least 40 wt.%.



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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 97/04024

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 6 C11D1/94 //C11D1/90, C11D1/34, C11D1/04

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 6 C11D

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.
X	US 5 139 781 A (BIRTWISTLE DAVID H ET AL) 18 August 1992 see claim 1	1,2,5
A	EP 0 583 702 A (GOLDSCHMIDT AG TH) 23 February 1994 see page 3, line 28 - page 4, line 20	1-4,7-9
A	EP 0 560 114 A (GOLDSCHMIDT AG TH) 15 September 1993 cited in the application see claims 1-6	1,2,6

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

15 May 1998

Date of mailing of the international search report

07/07/1998

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 97/04024

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DATABASE WPI  Section Ch, Week 8725  Derwent Publications Ltd., London, GB;  Class A96, AN 87-274800  XP002065107  &amp; JP 62 192 497 A (TOHO CHEM IND CO LTD)  see abstract</p> <p style="text-align: center;">---</p>	1,2,5
A	<p>DATABASE WPI  Section Ch, Week 9507  Derwent Publications Ltd., London, GB;  Class D25, AN 95-049146  XP002064892  &amp; JP 06 330 087 A (KAO CORP)  see abstract</p> <p style="text-align: center;">---</p>	1,2,5
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