

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁵ : C11D 1/10, 1/88, 17/00	A3	(11) International Publication Number: WO 94/05752 (43) International Publication Date: 17 March 1994 (17.03.94)
(21) International Application Number: PCT/US93/07912 (22) International Filing Date: 23 August 1993 (23.08.93) (30) Priority data: 07/938,979 1 September 1992 (01.09.92) US (71) Applicant: THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US). (72) Inventor: OFOSU-ASANTE, Kofi ; 5305 East Knoll Court, Cincinnati, OH 45239 (US). (74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45202 (US).		(81) Designated States: BR, CA, CZ, FI, HU, JP, PL, SK, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <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> (88) Date of publication of the international search report: 14 April 1994 (14.04.94)
(54) Title: LIQUID OR GEL DISHWASHING DETERGENT COMPOSITION CONTAINING ALKYL AMPHOCARBOXYLIC ACID AND MAGNESIUM OR CALCIUM IONS (57) Abstract Liquid or gel dishwashing detergent compositions containing alkyl amphocarboxylic acid and magnesium or calcium ions for improved stability, sudsing and grease cleaning are described. Stable liquid detergent compositions containing alkyl amphocarboxylic acid, and magnesium ions are preferred.		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	FR	France	MR	Mauritania
AU	Australia	GA	Gabon	MW	Malawi
BB	Barbados	GB	United Kingdom	NE	Niger
BE	Belgium	GN	Guinea	NL	Netherlands
BF	Burkina Faso	GR	Greece	NO	Norway
BG	Bulgaria	HU	Hungary	NZ	New Zealand
BJ	Benin	IE	Ireland	PL	Poland
BR	Brazil	IT	Italy	PT	Portugal
BY	Belarus	JP	Japan	RO	Romania
CA	Canada	KP	Democratic People's Republic of Korea	RU	Russian Federation
CF	Central African Republic	KR	Republic of Korea	SD	Sudan
CG	Congo	KZ	Kazakhstan	SE	Sweden
CH	Switzerland	LI	Liechtenstein	SI	Slovenia
CI	Côte d'Ivoire	LK	Sri Lanka	SK	Slovak Republic
CM	Cameroon	LU	Luxembourg	SN	Senegal
CN	China	LV	Latvia	TD	Chad
CS	Czechoslovakia	MC	Monaco	TG	Togo
CZ	Czech Republic	MG	Madagascar	UA	Ukraine
DE	Germany	ML	Mali	US	United States of America
DK	Denmark	MN	Mongolia	UZ	Uzbekistan
ES	Spain			VN	Viet Nam
FI	Finland				

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 93/07912

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 C11D1/10 C11D1/88 C11D17/00

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 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.
Y	EP,A,0 269 939 (KAO CORP.) 8 June 1988 see page 21, line 2 - page 25, paragraph 2; claims; examples 6-8 ---	1-10
Y	WO,A,92 05236 (BEROL NOBEL AB) 2 April 1992 see the whole document ---	1-10
Y	WO,A,92 08777 (THE PROCTER & GAMBLE CO.) 29 May 1992 see page 8, line 33 - page 12, line 27 see page 15, line 14 - page 24, line 14 see claims 1-10 ---	1-10
Y	WO,A,92 06171 (THE PROCTER & GAMBLE CO.) 16 April 1992 see page 6 - page 12; claims --- -/--	1-10

☒ Further documents are listed in the continuation of box C.

☒ 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 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

4 February 1994

Date of mailing of the international search report

24.02.94

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

Serbetsoglou, A

INTERNATIONAL SEARCH REPORT

Inter. nal Application No
PCT/US 93/07912

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	TENSIDE. vol. 23, no. 6 , November 1986 , MUNCHEN DE pages 309 - 312 HOLZMAN ET AL. 'Amphoteric Surfactants' see the whole document ---	1,2
A	EP,A,0 162 600 (FISHLOCK-LOMAX) 27 November 1985 see the whole document ---	1,2,4
A	EP,A,0 314 648 (KENOBEL AB) 3 May 1989 see claim 1 ---	1
P,X	US,A,5 156 761 (AASLYNG ET AL.) 20 October 1992	1,2,4,6, 10
P,A	see the whole document -----	3,5,8,9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 93/07912

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0269939	08-06-88	JP-A- 63128100	31-05-88
		JP-A- 63161080	04-07-88
		DE-A- 3776100	27-02-92
		US-A- 4876034	24-10-89

WO-A-9205236	02-04-92	AU-A- 7903291	15-04-92
		EP-A- 0500819	02-09-92
		JP-T- 5502265	22-04-93

WO-A-9208777	29-05-92	AU-A- 9063991	11-06-92
		CA-A- 2055045	17-05-92
		CN-A- 1062371	01-07-92
		EP-A- 0557426	01-09-93
		FI-A- 932199	14-05-93
		CA-A- 2055048	17-05-92

WO-A-9206171	16-04-92	AU-A- 8735291	28-04-92
		CA-A- 2092194	29-03-92
		CN-A- 1062160	24-06-92
		EP-A- 0550636	14-07-93

EP-A-0162600	27-11-85	AU-B- 573335	02-06-88
		AU-A- 4168985	31-10-85
		DE-A- 3564820	13-10-88

EP-A-0314648	03-05-89	SE-B- 463211	22-10-90
		DE-T- 3884338	20-01-94
		JP-A- 1141992	02-06-89
		SE-A- 8704148	27-04-89
		US-A- 4931215	05-06-90

US-A-5156761	20-10-92	EP-A- 0352244	24-01-90
		JP-A- 2041398	09-02-90