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54 Dishwasher detergent composition.

57 A liquid dishwasher detergent emulsion provided by this invention has high alkalinity, high levels of sequestrant and high temperature stability. The detergent emulsion comprises :

- i) 4 to 25% w/w of an alkali metal hydroxide suitable for use in a dishwasher ;
- ii) 0.2 to 5% w/w of a low foaming free non-ionic surfactant ;
- iii) 0.5 to 3% w/w of a polyacrylic acid suitable for enhancing sheeting action on non-porous surfaces ;
- iv) 15 to 30% w/w of a potassium polyphosphate sequestering composition enriched in tripolyphosphate and comprising minimal amounts of ortho and long forms of polyphosphates to facilitate thereby solubility of said potassium polyphosphate in water ;
- v) 2 to 6% w/w of a polymeric emulsion stabilizer for said free nonionic surfactant, the polymeric emulsion stabilizer being a chemically associated polycarboxylic acid polymer and a nonionic surfactant formed by polymerization of said nonionic surfactant with a polymerizable reactant selected from the group consisting of acrylic acid, polyacrylic acid, copolymers of acrylic acid and an ethylenically unsaturated polycarboxylic acid or an anhydride thereof, copolymers of ethylenically unsaturated polycarboxylic acid or anhydride thereof with a non-carboxy containing ethylenically unsaturated monomer, said nonionic surfactant and said reactant being polymerized in an aqueous media ;
- vi) 0 to 15% w/w of a sequestering agent to enhance hard water sequestering characteristics of said potassium polyphosphate ; and
- vii) water to make up the balance of composition to 100% w/w.



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EUROPEAN SEARCH REPORT

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EP 91 30 6960

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	EP-A-0 299 691 (DIVERSEY CORPORATION) * page 2, line 46 - line 51 * * page 3, line 11 - line 22 * * page 3, line 57 - line 58 * * page 6, line 11 - line 12; claims *	1-4	C11D3/37 C11D1/72 C11D3/12 C11D3/06
D	& US-A-4 826 618 ----		
Y	FR-A-2 568 888 (COLGATE PALMOLIVE CO) * page 1, line 15 - line 32; claims 1-8 *	1-4	
A,D	US-A-4 597 889 (C.E.JONES) * column 2, line 15 - line 27; claims *	1-4	
A	DE-A-2 810 999 (UNILEVER NV) ----	1,2	
A	US-A-3 509 059 (A.RENOLD) * the whole document *	1-4,6	
E	EP-A-0 446 761 (COLGATE PALMOLIVE CO) * page 4, line 35 - line 57 * * page 5, line 1 - line 13 * * page 7, line 4 - line 9 * * page 8, line 2 - line 54 * * claims 1,5,6,7,10,11 * -----	1,3-6	TECHNICAL FIELDS SEARCHED (Int. Cl.5) C11D
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 11 NOVEMBER 1992	Examiner PELLI-WABLAT B.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			

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