



⁽¹⁾ Publication number:

0 510 746 A3

EUROPEAN PATENT APPLICATION

(21) Application number: 92200993.1

(51) Int. Cl.5: **C11D** 11/00, C11D 17/06

(2) Date of filing: 07.04.92

Priority: 12.04.91 EP 91870061 10.03.92 EP 92870038

Date of publication of application:28.10.92 Bulletin 92/44

Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL PT
SE

Date of deferred publication of the search report:
 08.09.93 Bulletin 93/36

Applicant: THE PROCTER & GAMBLE COMPANY
One Procter & Gamble Plaza
Cincinnati Ohio 45202(US)

Inventor: Goovaerts, Luc Broekstraat 29 B-3150 Haacht(BE) Inventor: Vega, Jose Luis Nieuwelaan 121 B-1853 Strombeek-Bever(BE)

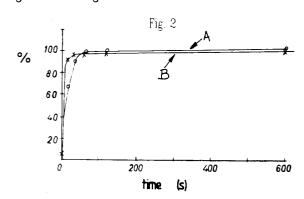
Representative: Canonici, Jean-Jacques et al Procter & Gamble European Technical Center N.V. Temselaan 100
B-1853 Strombeek-Bever (BE)

(54) Process for preparing condensed detergent granules.

57) The present invention relates to a process for making a free flowing granular detergent comprising : mixing an effective amount of an aqueous surfactant paste having a detergency activity of at least 40% and an effective amount of a dry detergency powder, said surfactant paste active and builder or powder having a ratio of 0.05:1 to 19:1 to form a mix; rapidly forming a uniform mixture from said mix at a temperature of from about 0°C to about 80°C; granulating said mixture into discrete detergent granules using a high speed mixing at a tip speed of about 5-50 m/sec; and wherein said surfactant paste is comprised of at least one anionic surfactant, and any other surfactants, if present, are selected from the group of anionic, zwitterionic, ampholytic and cationic surfactants and mixtures thereof; and wherein said mixing and granulating are conducted simultaneously, or immediately sequentially.

The nil-surfactant components of the finished granular detergent other than the granulated active paste, comprise a (relatively small) part of the total amount of builder, another part of the builder having been used for granulation. The nil active components can be spray-dried to form a powder having

good color, frangibility, dissolution properties and desirable density and size characteristics for direct dry mixing with other ingredients of the finished granular detergent.





EUROPEAN SEARCH REPORT

Application Number

EP 92 20 0993

	DOCUMENTS CONSII Citation of document with in-		· · · · · · · · · · · · · · · · · · ·	CLASSIFICATION OF THE
Category	of relevant pas		to claim	APPLICATION (Int. Cl.5)
D,X A	EP-A-O 349 201 (PROC * claims; examples *		1-3,5-7 4	C11D11/00 C11D17/06
A	EP-A-0 402 111 (PRO0 * claims 1,2,6,8; ex		1-6	
D,A	CHEMICAL ABSTRACTS, September 1985, Colu abstract no. 89343, * abstract * & JP-A-6 072 999 (KA 25 April 1985	umbus, Ohio, US;	2, 1-6	
A	FR-A-2 568 584 (KAO * page 30, line 1 -		es * 1,2	
				TECHNICAL FIELDS SEARCHED (Int. Cl.5)
				C11D
	The present search report has be			
	Place of search	Date of completion o	· · · · · · · · · · · · · · · · · · ·	Examiner GRITTERN A.G.
	THE HAGUE	01 JULY 199	s l	UKITIEKN A.G.
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		E:ea aft ther D:do L:do	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	
		& : m	& : member of the same patent family, corresponding document	