

Title (en)

Granules containing cationic surfactant

Title (de)

Kationtensidhaltige Granulate

Title (fr)

Granules contenant un tensioactif cationique

Publication

EP 0881279 B2 20070418 (DE)

Application

EP 98108983 A 19980518

Priority

DE 19721885 A 19970526

Abstract (en)

[origin: EP0881279A2] A solid granulate is claimed which contains (A) 50-40 wt.% cationic, textile-softening agent of formula (I), (II) and/or (III), where R<1> = 1-6C alkyl, alkenyl or hydroxyalkyl; R<2> = 8-28C alkyl or alkenyl; R<3> = as for R<1> or -(CH₂)_n-T-R<2>; R<4> = as for R<1> or R<2>, or -(CH₂)_n-T-R<2>; T = -CH₂- , -O-CO- or -CO-O-; and n = 0-5; (B) 50-90 wt.% solid carrier comprising an alkali metal-sulphate, -carbonate, -silicate, -citrate or -aluminium silicate or citric acid; and (C) 0-5 wt.% granulating auxiliaries. Also claimed is production of the granulate by low energy impacting of a solid carrier with a cationic surfactant in a mixer, followed by high energy granulation in the presence of water or an aqueous solution of a granulating auxiliary.

IPC 8 full level

C11D 1/62 (2006.01); **C11D 17/00** (2006.01); **C11D 17/06** (2006.01)

CPC (source: EP)

C11D 1/62 (2013.01); **C11D 17/0034** (2013.01); **C11D 17/06** (2013.01)

Citation (opposition)

Opponent :

- WO 9617042 A1 19960606 - PROCTER & GAMBLE [US], et al
- US 3573091 A 19710330 - WALDMAN MILTON M, et al
- US 4510073 A 19850409 - HARA NOBORU [JP], et al
- EP 0547722 A1 19930623 - COLGATE PALMOLIVE CO [US]
- US 5597794 A 19970128 - BAUER VOLKER [DE], et al
- EP 0753571 A1 19970115 - PROCTER & GAMBLE [US]
- US 4786422 A 19881122 - KERN RONALD D [US]
- US 4764292 A 19880816 - SEPULVEDA RALPH R [US], et al
- WO 9705221 A1 19970213 - PROCTER & GAMBLE [US], et al
- US 4128485 A 19781205 - BAUMAN ROBERT A, et al
- GB 2125452 A 19840307 - LION CORP
- US 4536316 A 19850820 - RAMACHANDRAN PALLASSANNA [US]
- EP 0521635 A1 19930107 - UNILEVER PLC [GB], et al
- EP 0340013 A2 19891102 - UNILEVER PLC [GB], et al
- EP 0149264 A1 19850724 - UNILEVER NV [NL], et al
- US 4000077 A 19761228 - WIXON HAROLD EUGENE
- US 3537893 A 19701103 - HAUSER NORBERT, et al
- US 4911851 A 19900327 - LADD JR JOSEPH M [US], et al
- US 4126586 A 19781121 - CURTIS MICHAEL, et al
- WO 9529215 A1 19951102 - PROCTER & GAMBLE [US], et al
- EP 0690123 A2 19960103 - AMWAY CORP [US]
- US 5160454 A 19921103 - KNUDSON JR MILBURN I [US], et al
- US 3974125 A 19760810 - OSWALD ALEXIS A, et al
- Chemical Abstracts of JP 63254199, JP 63138000, JP 01213476, JP 57010699, JP 59024800.
- The manufacture of detergent powder, de Groot, 1995, University of Eindhoven, Netherlands

Cited by

EP1502942A1; CN1306015C; EP3645693A4; US6916779B2; US6989361B2; US11441106B2; WO03083027A1; WO03083025A1; WO2023046690A1

Designated contracting state (EPC)

AT BE DE ES FR IT NL

DOCDB simple family (publication)

EP 0881279 A2 19981202; EP 0881279 A3 19990616; EP 0881279 B1 20030102; EP 0881279 B2 20070418; AT E230431 T1 20030115; DE 19721885 A1 19981203; DE 59806786 D1 20030206; ES 2189034 T3 20030701; ES 2189034 T5 20071116

DOCDB simple family (application)

EP 98108983 A 19980518; AT 98108983 T 19980518; DE 19721885 A 19970526; DE 59806786 T 19980518; ES 98108983 T 19980518