

Title (en)

Detergent powders and process for preparing them

Title (de)

Waschmittelpulver und Verfahren zu deren Herstellung

Title (fr)

Poudres détergentes et leur procédé de préparation

Publication

EP 0534525 B1 19961227 (EN)

Application

EP 92202764 A 19920911

Priority

GB 9120657 A 19910927

Abstract (en)

[origin: EP0534525A2] The dispensing properties of detergent compositions having a bulk density of 650-1100 kg/m³ and comprising anionic and/or nonionic surfactants, and builder material, may be substantially improved by including in the compositions from 5 to 30% by weight of sodium carbonate and/or -bicarbonate and/or -sesquicarbonate, and from 1 to 15% by weight of particulate citric acid, whereby more than 80% by weight of the citric acid has a particle size which is in the range of from 350 to 1500 μ m.

IPC 1-7

C11D 17/06; **C11D 3/10**; **C11D 3/20**; **C11D 3/37**; **C11D 3/39**; **C11D 3/12**

IPC 8 full level

C11D 3/10 (2006.01); **C11D 3/20** (2006.01); **C11D 3/60** (2006.01); **C11D 17/06** (2006.01)

CPC (source: EP)

C11D 3/10 (2013.01); **C11D 3/2086** (2013.01); **C11D 17/065** (2013.01)

Citation (examination)

- US 4414130 A 19831108 - CHENG BAO-DING [US]
- GB 1374105 A 19741113 - SCHERICO LTD
- GB 1515299 A 19780621 - UNILEVER LTD
- EP 0367339 A2 19900509 - UNILEVER NV [NL], et al
- US 4231887 A 19801104 - DENNY ARTHUR F, et al
- JP-62-62889(published 19 March 1987), and translation into English.
- prior use evidence of Ariel Ultra D product
- Hoffman la Roche sales brochure on citric acid on the market in 1988; Jungbunzlauer sales brochure on citric acid on the market before 1991 ADM sales brochure on citric acid, confirmed by ADM to be of essentially the same specification as the citric acid on the market before 1991; and CEH market research report on citric acid, of 1996,
- "Proceedings of the second World Conference on Detergents, American Oil Chemists' Society, 1987, p.177-180
- prior use evidence of Cheer ZM product
- Ind. Enp. Chem. Process Des-Dev, Vol. 9, n° 3, pp363-367(1970)

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Designated contracting state (EPC)

CH DE ES FR GB IT LI NL SE

DOCDB simple family (publication)

EP 0534525 A2 19930331; **EP 0534525 A3 19930901**; **EP 0534525 B1 19961227**; **EP 0534525 B2 20071010**; AU 2535592 A 19930401; AU 651732 B2 19940728; BR 9203769 A 19930420; CA 2078718 A1 19930328; CA 2078718 C 20031209; DE 69216191 D1 19970206; DE 69216191 T2 19970605; DE 69216191 T3 20080313; ES 2097860 T3 19970416; GB 9120657 D0 19911106; JP H05202398 A 19930810; ZA 927383 B 19940325

DOCDB simple family (application)

EP 92202764 A 19920911; AU 2535592 A 19920925; BR 9203769 A 19920925; CA 2078718 A 19920921; DE 69216191 T 19920911; ES 92202764 T 19920911; GB 9120657 A 19910927; JP 25121892 A 19920921; ZA 927383 A 19920925