

Title (en)  
MECHANICAL WASHING PROCESS

Publication  
**EP 0295525 B1 19930203 (DE)**

Application  
**EP 88109014 A 19880606**

Priority  
DE 3719906 A 19870615

Abstract (en)  
[origin: JPS6426778A] PURPOSE: To provide a machine washing process, which uses a paste-form, phosphate-reduced or phosphate-free detergent of high cleaning effect, the detergent containing a nonionic surfactant, comprising a phase liquid dispersed with solid phase having a specific particle size or less, and being diluted with water to a given concentration, before being thrown into a washing machine. CONSTITUTION: This process uses a paste-form, phosphate-reduced or phosphate-free detergent which contains a nonionic surfactant, is substantially free of water, organic solvent and hydrotropic compound, and adjusts the detergent in such a way that it comprises a phase liquid and solid dispersed therein at 10 deg.C or lower, wherein the solid particles have a mean size of 5 to 40 µm and 65% or less of the particles have a size of 80 µm or less, and the solid phase comprises a washing alkali, sequestering agent and anionic surfactant. The detergent is taken from a storage container, delivered to a mixer and diluted therein with water to at least such an extent that the formation of a gel phase is avoided, further diluted with water to a concentration of 0.5 to 10 g/l, and is automatically supplied to a washing machine. This supplies the detergent free of any cleaning-retarding component and high in cleaning power to the machine.

IPC 1-7  
**D06L 1/12; D06L 1/20**

IPC 8 full level  
**C11D 17/08** (2006.01); **C11D 1/83** (2006.01); **C11D 11/00** (2006.01); **C11D 17/00** (2006.01); **D06F 35/00** (2006.01); **D06F 39/02** (2006.01); **D06L 1/00** (2006.01); **D06L 1/01** (2017.01); **D06L 1/12** (2006.01); **D06L 1/20** (2006.01); **C11D 1/04** (2006.01); **C11D 1/14** (2006.01); **C11D 1/22** (2006.01); **C11D 1/28** (2006.01); **C11D 1/72** (2006.01); **C11D 1/722** (2006.01)

CPC (source: EP KR US)  
**C11D 1/04** (2013.01 - KR); **C11D 1/143** (2013.01 - KR); **C11D 1/22** (2013.01 - KR); **C11D 1/28** (2013.01 - KR); **C11D 1/72** (2013.01 - KR); **C11D 1/722** (2013.01 - KR); **C11D 1/83** (2013.01 - EP KR US); **C11D 17/003** (2013.01 - EP KR US); **D06F 39/022** (2013.01 - EP KR US); **D06L 1/01** (2017.01 - EP KR US); **C11D 1/04** (2013.01 - EP US); **C11D 1/143** (2013.01 - EP US); **C11D 1/22** (2013.01 - EP US); **C11D 1/28** (2013.01 - EP US); **C11D 1/72** (2013.01 - EP US); **C11D 1/722** (2013.01 - EP US); **C11D 2111/12** (2024.01 - EP KR US)

Cited by  
EP0849391A1; DE10159162B4; US5264147A; DE19641742A1; DE10159163B4; EP2166143A1; FR2936259A1; EP0561446A3; EP0395976A1; EP2132368A4; US5929014A; EP0490436A1; US5266233A; EP0356707A1; DE19641746A1; DE19641746C2; US6149034A; EP0480490A1; US5195203A; DE19751154A1; DE19751154C2; DE19641750A1; EP0500737A4; US7056876B2; US6409770B1; US7980102B2; WO0246351A1; WO9815684A1; WO9013623A1; WO9509229A1; WO9920826A1; WO9815682A1; WO9606969A1; US6627592B1; US6241378B1; US6187739B1; WO9912816A1; US6568570B1; US6248708B1; WO9925639A1; US6206242B1; WO9833881A1; WO9815683A1; WO9504183A1

Designated contracting state (EPC)  
AT BE CH DE ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)  
**EP 0295525 A2 19881221; EP 0295525 A3 19900328; EP 0295525 B1 19930203**; AT E85372 T1 19930215; DE 3719906 A1 19881229; DE 3878046 D1 19930318; DK 167624 B1 19931129; DK 324588 A 19881216; DK 324588 D0 19880614; ES 2040780 T3 19931101; FI 86084 B 19920331; FI 86084 C 19920710; FI 882833 A0 19880614; FI 882833 A 19881216; GR 3006967 T3 19930630; JP 2664729 B2 19971022; JP S6426778 A 19890130; KR 890000721 A 19890316; KR 970003076 B1 19970314; US 4889644 A 19891226

DOCDB simple family (application)  
**EP 88109014 A 19880606**; AT 88109014 T 19880606; DE 3719906 A 19870615; DE 3878046 T 19880606; DK 324588 A 19880614; ES 88109014 T 19880606; FI 882833 A 19880614; GR 930400124 T 19930204; JP 14789488 A 19880615; KR 880007196 A 19880615; US 20761088 A 19880615