

Title (en)  
WATERLESS SELF-EMULSIFIABLE CHEMICAL SOFTENING COMPOSITION USEFUL IN FIBROUS CELLULOSIC MATERIALS

Title (de)  
WASSERFREI SELBSTEMULGIERBARE CHEMISCHE WEICHMACHENDE ZUSAMMENSETZUNG ANWENDBAR IN FASERIGEN MATERIALIEN AUS ZELLULOSE

Title (fr)  
COMPOSITION D'ADOUCISSANT CHIMIQUE AUTOEMULSIFIANT SANS EAU POUR PRODUITS CELLULOSIQUES FIBREUX

Publication  
**EP 0701640 B1 20000308 (EN)**

Application  
**EP 94918091 A 19940523**

Priority  
• US 9405777 W 19940523  
• US 7229993 A 19930603

Abstract (en)  
[origin: WO9429520A1] Substantially waterless self-emulsifiable chemical softening compositions are provided comprising a mixture of a quaternary ammonium compound and a polyhydroxy compound. Preferred quaternary ammonium compounds include dialkyl dimethyl ammonium salts such as di(hydrogenated)tallow dimethyl ammonium chloride, di(hydrogenated)tallow dimethyl ammonium methyl sulfate. Preferred polyhydroxy compounds are selected from the group consisting of glycerol, polyglycerols having a weight average molecular weight of from about 150 to about 800 and polyoxyethylene glycols and polyoxypropylene glycols having a weight average molecular weight from about 200 to 4,000. The substantially waterless self-emulsifiable chemical softening compositions are prepared by mixing the quaternary ammonium compound with the polyhydroxy compound at a specific temperature range wherein the polyhydroxy compound is miscible with the quaternary ammonium compound. The resulting stable solid or concentrated fluid mixture can then be economically shipped to the consumer or ultimate user. The ultimate users of the chemical softening composition simply dilute the mixture with a liquid carrier (e.g., water) to form an aqueous dispersion suitable for treating fibrous cellulosic materials. The substantially waterless self-emulsifiable chemical softening compositions disclosed herein are primarily intended for softening disposable paper products such as tissues and towels.

IPC 1-7  
**D21H 17/06**; **D21H 17/07**; **D21H 21/24**

IPC 8 full level  
**D21H 19/10** (2006.01); **D21H 17/06** (2006.01); **D21H 17/07** (2006.01); **D21H 21/14** (2006.01); **D21H 21/24** (2006.01)

CPC (source: EP KR)  
**D21H 17/06** (2013.01 - EP KR); **D21H 17/07** (2013.01 - EP KR); **D21H 21/24** (2013.01 - EP KR)

Designated contracting state (EPC)  
DE FR GB IT NL

DOCDB simple family (publication)  
**WO 9429520 A1 19941222**; AU 694433 B2 19980723; AU 6955994 A 19950103; BR 9406738 A 19960312; CA 2162848 A1 19941222; CN 1052050 C 20000503; CN 1128550 A 19960807; CZ 321395 A3 19960717; DE 69423352 D1 20000413; DE 69423352 T2 20001019; EP 0701640 A1 19960320; EP 0701640 B1 20000308; FI 955789 A0 19951201; FI 955789 A 19960118; HK 1013134 A1 19990813; HU 9503464 D0 19960129; HU T74116 A 19961128; JP 3194958 B2 20010806; JP H08511068 A 19961119; KR 100336444 B1 20021120; KR 960702877 A 19960523; MY 111219 A 19990930; NO 954868 D0 19951130; NO 954868 L 19960202; NZ 267305 A 19971124; PE 53894 A1 19950102; PH 31624 A 19990112; SG 66237 A1 19990720

DOCDB simple family (application)  
**US 9405777 W 19940523**; AU 6955994 A 19940523; BR 9406738 A 19940523; CA 2162848 A 19940523; CN 94192979 A 19940523; CZ 321395 A 19940523; DE 69423352 T 19940523; EP 94918091 A 19940523; FI 955789 A 19951201; HK 98114419 A 19981221; HU 9503464 A 19940523; JP 50183595 A 19940523; KR 19950705460 A 19951202; MY PI19941416 A 19940603; NO 954868 A 19951130; NZ 26730594 A 19940523; PE 24385794 A 19940603; PH 48355 A 19940527; SG 1996002699 A 19940523