



(51) International Patent Classification:

C11D 1/38 (2006.01) C11D 3/30 (2006.01)

C11D 3/00 (2006.01)

(21) International Application Number:

PCT/US2019/041684

(22) International Filing Date:

12 July 2019 (12.07.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/697,235 12 July 2018 (12.07.2018) US

62/839,081 26 April 2019 (26.04.2019) US

(71) Applicant: STEPAN COMPANY [US/US]; 22 West
Frontage Road, Northfield, Illinois 60093 (US).(72) Inventors: FAUNCE, James Anthony; 705 Pinehurst Drive,
North Aurora, Illinois 60542 (US). BUTIKAS, Renata;
Chicago, Illinois (US). BERNHARDT, Randall Jay;
8212 Appaloosa Lane, Spring Grove, Illinois 60081 (US).
KOVACH, Elizabeth Sarah; 928 North Ventura Drive,
Palatine, Illinois 60074 (US). GERMAIN, Teresa; 16433

Lee Avenue, Orland Park, Illinois 60467 (US). **WOLFE, Patrick Shane**; 145 North Clark Drive, Palatine, Illinois 60074 (US). **ZAPOROWSKI, Leonard Frank**; 17 North Rammer Avenue, Arlington Heights, Illinois 60004 (US). **DAMESHEK, Anatoliy A.**; 1204 Tiffany Court, Indian Creek, Illinois 60061 (US).

(74) Agent: GALLAGHER, Priscilla F.; McAndrews, Held &
Malloy, Ltd., 500 W. Madison, 34th Floor, Chicago, Illinois
60661 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

(54) Title: ESTERQUAT COMPOSITIONS

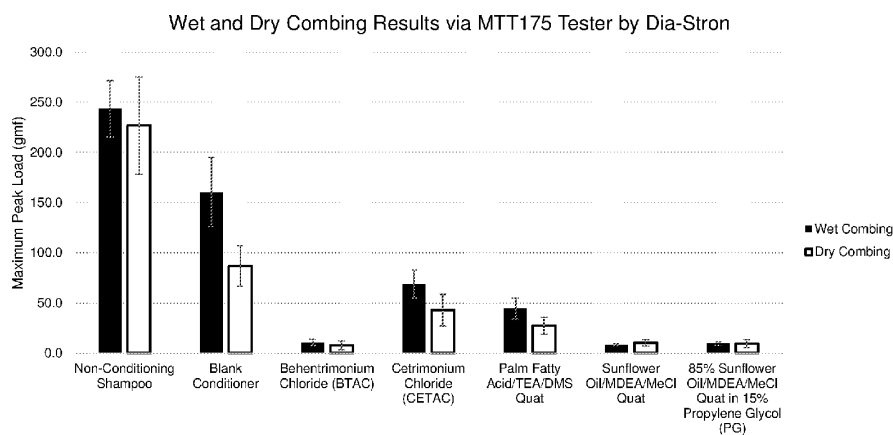


Figure 1

(57) Abstract: Esterquat compositions are disclosed that comprise, based on the weight of the composition, 0% to about 70% by weight of a solvent, and about 30% to 100% by weight of a mixture comprising about 50% to about 80% by weight, based on the weight of the mixture, of esterquats and about 20% to about 50% by weight, based on the weight of the mixture, of mono- and diglycerides. The esterquat compositions can be prepared by the direct esterification of a natural oil with an alkanolamine, followed by quaternization in the presence of the solvent. The esterquat compositions can be formulated into hair care compositions that provide improved wet and dry combing properties.

[Continued on next page]

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*