



(51) International Patent Classification:

C07C 29/149 (2006.01) C07C 69/24 (2006.01)
C07C 67/03 (2006.01) C07C 69/26 (2006.01)
C07C 67/08 (2006.01) C07C 31/125 (2006.01)

(21) International Application Number:

PCT/GB2013/052584

(22) International Filing Date:

3 October 2013 (03.10.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

1218078.2 9 October 2012 (09.10.2012) GB

(71) Applicant: **JOHNSON MATTHEY DAVY TECHNOLOGIES LIMITED** [GB/GB]; 10 Eastbourne Terrace, London W2 6LG (GB).

(72) Inventors: **CASSIDY, Paul John**; 10 Eastbourne Terrace, London W2 6LG (GB). **WILD, Robert**; The Technology Centre, Princeton Drive Thornaby, Stockton-on-Tees TS17 6PY (GB). **ANDERSSON, Rikard**; 10 Eastbourne Terrace, London W2 6LG (GB). **TILLEY, Simon Nicholas**; The Technology Centre, Princeton Drive, Thornaby, Stockton-on-Tees TS17 6PY (GB). **BACKES, Adrian**; 10 Eastbourne Terrace, London W2 6LG (GB).

(74) Agent: **WP THOMPSON**; 55 Drury Lane, London WC2B 5SQ (GB).

(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, 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))

(54) Title: PROCESS FOR THE PRODUCTION OF A FATTY ALCOHOL FROM A FATTY ACID

(57) Abstract: A process for the production of fatty alcohol or alcohols comprising: subjecting a fatty acid or fatty acid mixture to esterification with a lower alkanol in an esterification reactor maintained under esterification conditions to form a stream comprising the corresponding lower alkyl fatty acid ester or esters; vaporising the stream from step (a); subjecting the vaporised stream of step (b) to hydrogenation in a first hydrogenation zone operated under hydrogenation conditions to form a stream comprising fatty alcohol or alcohols and an amount of unconverted lower alkyl fatty acid ester or esters; subjecting the stream from step (c) to transesterification in a wax ester reactor maintained under transesterification conditions in the presence of a transesterification catalyst thereby to convert at least a portion of the lower alkyl fatty acid ester or esters by ester interchange with a corresponding amount of fatty alcohol or alcohols to lower alkanol and to a wax ester or esters; separating the stream from step (d) by distillation to yield a fatty alcohol or alcohols product stream; a wax ester or esters stream; and an overhead stream comprising fatty alcohol or alcohols and alkane, and optionally one or both of water and lower alkanol; reacting said overhead stream from step (e) in a wax ester reactor maintained under transesterification conditions in the presence of a transesterification catalyst with a lower alkyl fatty acid ester or esters thereby to convert at least a portion of the lower alkyl fatty acid ester by ester interchange with a corresponding amount of fatty alcohol or alcohols to lower alkanol and to a wax ester or esters; and separating the wax ester or esters formed from the alkane, and any water and/or lower alkanol present.



WO 2014/057248 A1