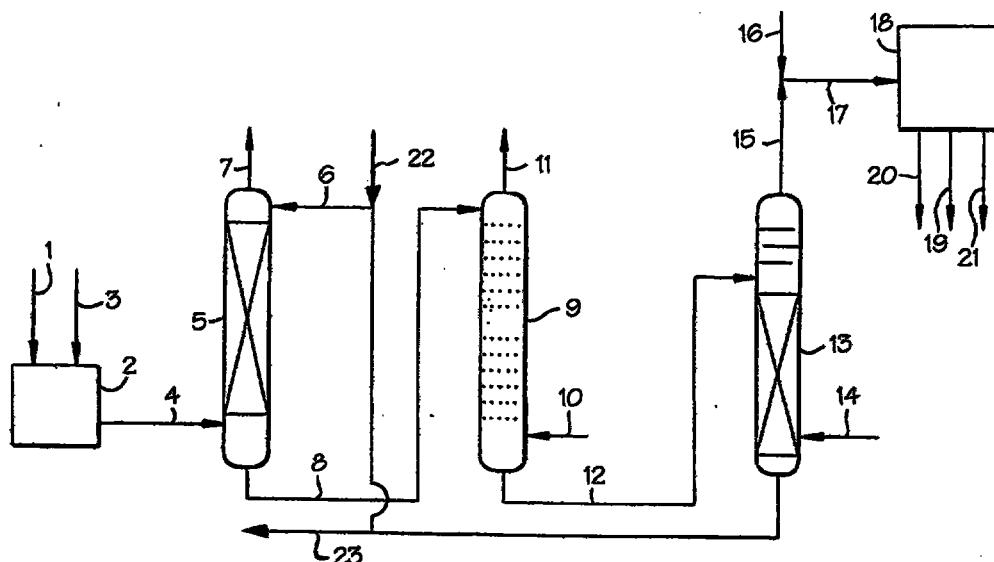




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(21) International Application Number: PCT/GB98/03264 (22) International Filing Date: 2 November 1998 (02.11.98) (30) Priority Data: 9724004.8 13 November 1997 (13.11.97) GB (71) Applicant (for all designated States except US): KVAERNER PROCESS TECHNOLOGY LIMITED [GB/GB]; 20 Eastbourne Terrace, London W2 6LE (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): TUCK, Michael, William, Marshall [GB/GB]; 5 Riggindale Road, London SW16 1QL (GB). WOOD, Michael, Anthony [GB/GB]; 9 Watchgate, Nunthorpe, Middlesbrough, Cleveland TS7 0QS (GB). HILES, Andrew, George [GB/GB]; Monaltrie, Chiltern Road, Chesham Bois, Buckinghamshire HP6 5PH (GB). (74) Agent: EYLES, Christopher, Thomas; W.P. Thompson & Co., Celcon House, 289-293 High Holborn, London WC1V 7HU (GB).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>

(54) Title: PROCESS FOR PREPARING GAMMA-BUTYROLACTONE, BUTANE-1,4-DIOL AND TETRAHYDROFURAN

**(57) Abstract**

A process for the production of at least one C₄ compound selected from 1,4-butanediol, γ -butyrolactone and tetrahydrofuran, in which a solution of maleic anhydride in a high boiling ester is esterified with a C₁ to C₄ alcohol to form the corresponding di-(C₁ to C₄ alkyl)maleate, which is hydrogenated to form the at least one C₄ compound. The high boiling ester has a boiling point at atmospheric pressure which is about 30 °C higher than that of the di-(C₁ to C₄ alkyl)maleate and is selected from di-(C₁ to C₄ alkyl)esters of alkyl dicarboxylic acids containing up to 13 carbon atoms, mono- and di-(C₁₀ to C₁₈ alkyl)esters of maleic acid, fumaric acid, succinic acid, and mixtures thereof, (C₁ to C₄ alkyl)esters of naphthalenemonocarboxylic acids, tri-(C₁ to C₄ alkyl)esters of tricarboxylic acids, and di-(C₁ to C₄ alkyl)esters of isophthalic acid.