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(21) International Application Number: PCT/GB97/01286 (22) International Filing Date: 12 May 1997 (12.05.97) (30) Priority Data: 96303428.5 15 May 1996 (15.05.96) EP (34) Countries for which the regional or international application was filed: GB et al. (71) Applicant (for all designated States except US): KVAERNER PROCESS TECHNOLOGY LIMITED [GB/GB]; 30 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, Amersham, 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, GE, HU, 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, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published With international search report.
(54) Title: PROCESS FOR PREPARING GAMMA-BUTYROLACTONE, BUTANE-1,4-DIOL AND TETRAHYDROFURAN		
(57) Abstract A process is described for the production of at least one C ₄ compound selected from butane-1,4-diol, γ-butyrolactone and tetrahydrofuran, which includes the step of hydrogenation in the vapour phase of maleic anhydride in the presence of a heterogeneous hydrogenation catalyst, which process comprises: (a) contacting a vaporous stream containing maleic anhydride vapour, water vapour, and carbon oxides in an absorption zone with a high boiling organic solvent having a boiling point at atmospheric pressure which is at least about 30 °C higher than that of maleic anhydride thereby to form a solution of maleic anhydride in the high boiling organic solvent; (b) recovering from the absorption zone a waste gas stream; (c) contacting the solution of maleic anhydride in the high boiling solvent with a gaseous stream containing hydrogen thereby to strip maleic anhydride therefrom and to form a vaporous stream comprising hydrogen and maleic anhydride; (d) contacting material of the vaporous stream of step (c) in a hydrogenation zone under hydrogenation conditions in the presence of a heterogeneous hydrogenation catalyst thereby to convert maleic anhydride to at least one C ₄ compound selected from butane-1,4-diol, γ-butyrolactone and tetrahydrofuran; and (e) recovering from the hydrogenation zone a product stream containing said at least one C ₄ compound.		