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(21) International Application Number: PCT/US97/17318 ✓ (22) International Filing Date: 23 September 1997 (23.09.97) ✓ (30) Priority Data: ✓ ① 08/717,980 ✓ 23 September 1996 (23.09.96) ✓ US ✓ ① (71) Applicant: EXXON CHEMICAL PATENTS INC. [US/US]: ✓ 5200 Bayway Drive, Baytown, TX 77520-5200 (US). ✓ (72) Inventors: ✓ ① GARTON, Ronald, D.: 8350 Myrtlelake Drive, ✓ Baton Rouge, LA 70810 (US). ✓ ② BROWN, Donald, Q.: ✓ 1475 S. Woodhaven Drive, Baton Rouge, LA 70815 (US). ✓ ③ AGOSTO, Magdalen: Apartment #1105, 11070 Mead Road, ✓ Baton Rouge, LA 70816 (US). ✓ (74) Agents: JORDAN, Richard, D. et al.; Exxon Chemical Company, P.O. Box 2149, Baytown, TX 77522-2149 (US).		(81) Designated States: (SG) European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: IMPROVED ALCOHOL HYDROGENATION WITH INTERMEDIATE RECYCLE ✓		
(57) Abstract In the process of hydrogenating a crude aldehyde product formed from the oxo process into a crude alcohol product, which process includes: feeding the crude aldehyde product into a first reactor which contains a hydrogenation catalyst, thereby forming a first hydrogenated product; feeding the first hydrogenated product from the first reactor through at least one intermediate reactor, each intermediate reactor being connected in series and containing a hydrogenation catalyst, thereby forming at least one intermediate hydrogenated product; and feeding the intermediate hydrogenated product from a last intermediate reactor to a final reactor which contains a hydrogenation catalyst, thereby forming the crude alcohol product; the improvement including a step wherein: at least a portion of the first hydrogenated product is recycled to the first hydrogenation reactor; or at least a portion of the intermediate hydrogenated product is recycled to the first hydrogenation reactor or an intermediate reactor upstream of the intermediate reactor from which the intermediate hydrogenated product is removed.		