

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 June 2002 (27.06.2002)

PCT

(10) International Publication Number
WO 02/49997 A1

(51) International Patent Classification⁷: **C07C 11/167**,
7/167

(21) International Application Number: PCT/US01/49106

(22) International Filing Date:
18 December 2001 (18.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/739,606 19 December 2000 (19.12.2000) US

(71) Applicant (for all designated States except US): **UOP LLC** [US/US]; 25 East Algonquin Road, Des Plaines, IL 60017 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **LANKTON, Steven, P.** [US/US]; Uop Llc, 25 East Algonquin Road, Des Plaines, IL 60017 (US).

(74) Common Representative: **UOP LLC**; John G. Tolomei, 25 East Algonquin Road, Des Plaines, IL 60017 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A PROCESS TO REMOVE REACTION BY-PRODUCTS FROM A SELECTIVE HYDROGENATION EFFLUENT STREAM

(57) Abstract: A process for the rejection of heavy reaction by-products from a selective hydrogenation reaction zone effluent containing butadiene and trace amounts of heavy reaction by-products by introducing the selective hydrogenation reaction zone effluent into a butadiene extraction vaporizer containing a fractionation zone, refluxing the fractionation zone with a raffinate stream from a butadiene extraction zone; removing a vaporized stream containing butadiene and having a reduced concentration of heavy reaction by-products from the vaporizer; removing and recovering a concentrated liquid product stream containing heavy reaction by-products from the vaporizer; and introducing the vaporized stream containing butadiene into the butadiene extraction zone.

WO 02/49997 A1