

PCT

20000/826-7
WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : C10G 29/20		A1	(11) International Publication Number: WO 00/14181
			(43) International Publication Date: 16 March 2000 (16.03.00)
(21) International Application Number: PCT/US99/20265 (22) International Filing Date: 3 September 1999 (03.09.99) (30) Priority Data: 09/150,451 9 September 1998 (09.09.98) US (71) Applicant: BP AMOCO CORPORATION [US/US]; Law Dept., 200 East Randolph Drive, Mail Code 1907A, Chicago, IL 60601 (US). (72) Inventors: ALEXANDER, Bruce, D., 156 East Sunset Avenue, Lombard, IL 60148 (US). HUFF, George, A., 823 Morven Court, Naperville, IL 60563 (US). PRADHAN, Vivek, R., Apartment #75, 743 Avondale Lane, Aurora, IL 60504 (US). REAGAN, William, J., 886 Appomattox Circle, Naperville, IL 60540 (US). CAYTON, Roger, H., 856 South Wright Street, Naperville, IL 60540 (US). (74) Agent: KRETCHMER, Richard, A., BP Amoco Corporation, 200 East Randolph Drive, Mail Code 1907A, Chicago, IL 60601 (US).			(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, IN, 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, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, 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: **MULTIPLE STAGE SULFUR REMOVAL PROCESS**

(57) Abstract

A product of reduced sulfur content is produced in a multiple stage process from a feedstock which is comprised of a mixture of hydrocarbons and includes sulfur-containing aromatic compounds as unwanted impurities. The first stage involves 1) subjecting the feedstock to alkylation conditions which are effective to convert a portion of the impurities to higher boiling sulfur-containing products, and 2) separating the resulting products by fractional distillation into a lower boiling fraction and a higher boiling fraction. The lower boiling fraction is comprised of hydrocarbons and is of reduced sulfur content relative to the feedstock. The higher boiling fraction is comprised of hydrocarbons and contains unconverted sulfur-containing aromatic impurities and also the higher boiling sulfur-containing products. Each subsequent stage involves 1) subjecting the higher boiling fraction from the preceding stage to alkylation conditions which are effective to convert at least a portion of its content of sulfur-containing aromatic compounds to higher boiling sulfur-containing products, and 2) separating the resulting products by fractional distillation into a lower boiling hydrocarbon fraction and a higher boiling fraction which contains higher boiling sulfur-containing alkylation products. The total hydrocarbon product of reduced sulfur content from the process is comprised of the lower boiling fractions from various stages.

