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

(19) World Intellectual Property Organization
International Bureau

162162

(43) International Publication Date
11 July 2002 (11.07.2002)

PCT

(10) International Publication Number
WO 02/053286 A3

(51) International Patent Classification[7]: B01J 35/10, 23/85, C10G 49/04

(21) International Application Number: PCT/EP01/15383

(22) International Filing Date:
20 December 2001 (20.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2001/485 5 January 2001 (05.01.2001) JP

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(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*

(88) Date of publication of the international search report:
31 July 2003

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.

G00002

WO 02/053286 A3

(54) Title: HYDROPROCESSING CATALYST AND USE THEREOF

(57) Abstract: The invention pertains to a hydroprocessing catalyst suitable for the conversion of heavy hydrocarbon oils, which comprises 7-20wt.% of Group VI metal, Calculated as trioxide, and 0.5-6 wt.% of Group VIII metal, calculated as oxide, on a carrier comprising alumina, the catalyst having a surface area of 100-180 m^2/g, a total pore volume of 0.55 ml/g or more, a %PV(>200 Å d) of at least 50%, a %PV(>1,000 Å d) of at least 5%, a %PV(100-1,200 Å d) of at least 85%, a %PV(> 4,000 Å d) of 0-2%, and a %PV(> 10,000 Å d) of 0-1%. The catalyst of the present invention shows improved metals and asphaltene removal, combined with appropriate sulfur, nitrogen, and Conradson carbon removal. Additionally, the catalyst shows a decrease in sediment formation and an improved conversion in ebullating bed operations. In fixed bed operation, the catalyst produces product with an improved storage stability. The invention also pertains to a process for hydroprocessing heavy hydrocarbon feeds with the catalyst according to the invention in fixed bed or ebullating bed operation.