



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : C10G 49/04, B01J 35/10	A1	(11) International Publication Number: WO 00/44856 (43) International Publication Date: 3 August 2000 (03.08.00)
(21) International Application Number: PCT/EP00/00489 (22) International Filing Date: 20 January 2000 (20.01.00) (30) Priority Data: 1117669 26 January 1999 (26.01.99) JP (71) Applicants (for all designated States except US): NIPPON KETJEN CO., LTD [JP/JP]; 5-9, Shiba 1-chome, Minato-ku, Tokyo 105-0014 (JP). AKZO NOBEL N.V. [NL/NL]; Velperweg 76, NL-6824 BM Arnhem (NL). (72) Inventors; and (75) Inventors/Applicants (for US only): ABE, Satoshi [JP/JP]; 750, Tamatsu, Saijo City, Ehime Pref. (JP). TAKAHASHI, Yasuhito [JP/JP]; 12-2, Hoshigoe-cho, Niihama City, Ehime Pref. (JP). HINO, Akira [JP/JP]; 15-10, Maeda-cho, Niihama City, Ehime Pref. (JP). DE BOER, Mark [NL/NL]; Akzo Nobel Chemicals B.V., Stationsplein 4, NL-3800 AE Amersfoort (NL). (74) Agent: SCHALKWIJK, Pieter, Cornelis; Akzo Nobel N.V., Intellectual Property Dept. (Dept. AIP), P.O. Box 9300, NL-6800 SB Arnhem (NL).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, 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> <i>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: HYDROPROCESSING CATALYST AND USE THEREOF		
(57) Abstract The invention pertains to a hydroprocessing catalyst comprising 7-20 wt.% of a Group VIB hydrogenation metal component, calculated as trioxide, 0.5-6 wt.% of a non-noble Group VIII hydrogenation metal component, calculated as oxide, and 0.1-2 wt.% of an alkali metal component, calculated as oxide, on a carrier, wherein the carrier comprises at least 3.5 wt.% of silica, calculated on the catalyst, the catalyst having a surface area of at least 150m²/g, a total pore volume of at least 0.55 ml/g, and a pore size distribution which is such that 30-80% of the pore volume is present in pores with a diameter of 100-200 Å, and at least 5% of the pore volume is present in pores with a diameter above 1000 Å. Preferably, the catalyst has less than 25% of the total pore volume in pores with a diameter of less than 100 Å. The invention also pertains to the use of this catalyst in hydroprocessing of heavy hydrocarbon feedstocks, e.g., in an ebullated bed process, particularly a feedstock at least 50 wt.% of which boils above 538°C (1,000°F) and which comprises at least 2 wt.% of sulphur and at least 5 wt.% of Conradson carbon. The catalyst according to the invention gives good contaminant removal with less sludge formation than prior art catalysts.		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						