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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C10G 67/04, 45/58	A1	(11) International Publication Number: WO 97/21788 (43) International Publication Date: 19 June 1997 (19.06.97)
(21) International Application Number: PCT/US96/18427 (22) International Filing Date: 15 November 1996 (15.11.96) (30) Priority Data: 08/569,468 8 December 1995 (08.12.95) US (71) Applicant: EXXON RESEARCH AND ENGINEERING COMPANY [US/US]; 180 Park Avenue, P.O. Box 390, Florham Park, NJ 07932-0390 (US). (72) Inventors: WITTENBRINK, Robert, Jay; 836 Shadyglen Drive, Baton Rouge, LA 70816 (US). RYAN, Daniel, Francis; 6211 Gabriel Oaks Drive, Baton Rouge, LA 70820 (US). BAUMAN, Richard, Frank; 8034 Oak Hollow Drive, Baton Rouge, LA 70810 (US). (74) Agent: SIMON, Jay; Exxon Research and Engineering Company, P.O. Box 390, Florham Park, NJ 07932-0390 (US).	(81) Designated States: AU, BR, CA, CN, JP, MX, NO, 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: BIODEGRADABLE HIGH PERFORMANCE HYDROCARBON BASE OILS

(57) Abstract

Discloses novel biodegradable high performance hydrocarbon base oils useful as lubricants in engine oil and industrial compositions, and process for their manufacture. A waxy, or paraffinic feed, particularly a Fischer-Tropsch wax, is reacted over a dual function catalyst to produce hydroisomerization and hydrocracking reactions, at 700 °F+ conversion levels ranging from about 20 to 50 wt.%, preferably about 25-40 wt.%, sufficient to produce a crude fraction, e.g., a C₅-1050 °F+ crude fraction, containing 700 °F+ isoparaffins having from about 6.0 to about 7.5 methyl branches per 100 carbon atoms in the molecule. The methyl paraffins containing crude fraction is topped via atmospheric distillation to produce a bottoms fraction having an initial boiling point between about 650 °F and 750 °F which is then solvent dewaxed, and the dewaxed oil is then fractionated under high vacuum to produce biodegradable high performance hydrocarbon base oils.