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EXXON RES & ENG CO

H01

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Pumpable syncrude prodn. from Fischer-Tropsch wax - by fractionation to separate oxygenated cpds., hydroisomerising and hydrocracking residue over fluorided Gp-VIII metal-on-alumina, etc.

C89-078545

Prodn. of a pumpable syncrude from a Fischer-Tropsch wax contg. oxygenate cpds. comprises:

- (1) separating the wax into (a) a low-boiling fraction contg. most of the oxygenate cpds. and (b) a high-boiling fraction free of water and oxygenate cpds.;
- (2) reacting fraction (b) with H₂ under hydroisomerisation mild hydrocracking conditions in the presence of a fluorided Gp.VIII metal-on-alumina catalyst to produce a C₅+ hydrocarbon prod., and
- (3) combining this prod. with fraction (a) from (1) to give a pumpable, refinery processable syncrude that can be transported at atmospheric conditions.

USE/ADVANTAGE

The syncrude can be further processed to produce middle distillate fuels, including jet and diesel fuels, lighter prods. including a gasoline fraction, and a residue which may be further processed to middle distillate and lighter prods. or

H(2-A1, 4-B3, 4-E, 4-E8, 4-F2B, 4-F2E) N(1-C2, 2, 4-D1)

to make lubricating oils.

Fractionation in (1) prevents the oxygenate cpds. from adversely affecting the performance of the hydroisomerisation/hydrocracking catalyst. The syncrude can be transported in conventional tankers without special facilities to maintain the liq. state.

PREFERRED EMBODIMENT

The Gp. VIII metal is Pt, the catalyst pref. comprising 0.1-2% Pt and 2-10% fluoride and the high-boiling fraction has an initial b.pt. of 450-650, esp. 500-600°F.

Esp. the catalyst has a fluoride concn. < 2.0 wt.% at the outer surface to a depth < 1/100 inch, and contains 0.3 - 0.6% Pt and 5.8% fluoride, based on total wt. of catalyst compsn.

Pref. the syncrude is fractionated to produce at least a middle distillate fraction and a residual fraction which has an initial b.pt. of 650-750°F, and the residual fraction is reacted with H₂ in a second hydroisomerisation/hydrocracking zone in presence of a Gp. VIII metal (pref. Pt)-on-alumina catalyst to produce a middle distillate fuel prod., lighter prods. including a gasoline fraction, and a residual prod.

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