

89-180137/25 H07 (H04)

ESSO 18.12.87  
\*EP -321-304-A

EXXON RES &amp; ENG CO

18.12.87-US-134998 (21.06.89) C10g-45/68

Lubricating oil prodn. from wax - by catalytic isomerisation at low hydrogen rate

C89-079545 R(BE DE ES FR GB IT NL)

H(4-A7, 4-E, 4-F2E) N(1-C2, 2, 4-D)

Pt/8.1% F/Al<sub>2</sub>O<sub>3</sub> catalyst at 315-327°C., 1200 psig and 0.99-1 LHSV with an H<sub>2</sub> rate of (a) 2573, (b) 5035 or (c) 9565 scf/bbl.. The 370°C. conversion was (a) 22, (b) 25.1, (c) 24.7 wt.%. The yield of waxy 5.85 cS/100°C oil was (a) 71.0, (b) 66.4, (c) 69.0 wt.%. (10pp367CGDwgNo0/0).  
(E)ISR: No Search Report.

Prodn. of lubricating oil with a 100°C viscosity of 5.6-5.9 cS is effected by catalytic isomerisation of wax under conventional temp., pressure and space velocity conditions but with a low H<sub>2</sub> rate of 500-5000 scf/bbl..

ADVANTAGE

The low H<sub>2</sub> rate increases the yield of lubricating oil and reduces its wax content.

PREFERRED CONDITIONS

The feed is a synthetic wax or slack wax. The process is operated at 270-400°C. and 500-3000 psi with a LHSV of 0.1-10 and an H<sub>2</sub> rate of 2000-4000 (esp. 2000-3000) scf/bbl., using a catalyst comprising a Group VIII metal (esp. Pt) on a fluorided  $\gamma$ -alumina support.

EXAMPLE

A hydrotreated slack wax was isomerised on a 0.6%