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EXXON RES &amp; ENG CO

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Lubricating oil prodn. by catalytic wax isomerisation - using fluorided alumina-based catalyst contg. hydrogenation metal

C89-079543 R(BE DE ES FR GB IT NL)

Prodn. of lube oil base stocks or blending stocks is effected by catalytic isomerisation of wax using a fluorided catalyst comprising a hydrogenation metal on  $Al_2O_3$  or an  $Al_2O_3$ -contg. material.

The catalyst has (a) a hydrate level of 60 or less, as measured by the X-ray diffraction peak height at 2 theta =  $5.66 \text{ \AA}$ , where a hydrate level of 100 corresponds to the peak height for a catalyst comprising 0.6% Pt on  $150 \text{ m}^2/\text{g}$  gamma-alumina contg. 7.2% F introduced by treating with conc. aq. HF and drying at  $150^\circ\text{C}$  for 16 hr.; (b) an N'/Al ratio of 0.01 or less, where N' = surface N content as measured by X-ray photoelectron spectroscopy; (c) a bulk F content of 2-20 wt.%; and (d) a surface F content (to a depth of 0.01 inch) of less than 3 wt.%.  
 (E) ISR: No Search Report.

**ADVANTAGE**

The process gives high yields of prods. with low pour

AU-A-26962/88

H(4-A7, 4-E, 4-F2A, 4-F2C) IN (1-12, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-29, 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 1-37, 1-38, 1-39, 1-40, 1-41, 1-42, 1-43, 1-44, 1-45, 1-46, 1-47, 1-48, 1-49, 1-50, 1-51, 1-52, 1-53, 1-54, 1-55, 1-56, 1-57, 1-58, 1-59, 1-60, 1-61, 1-62, 1-63, 1-64, 1-65, 1-66, 1-67, 1-68, 1-69, 1-70, 1-71, 1-72, 1-73, 1-74, 1-75, 1-76, 1-77, 1-78, 1-79, 1-80, 1-81, 1-82, 1-83, 1-84, 1-85, 1-86, 1-87, 1-88, 1-89, 1-90, 1-91, 1-92, 1-93, 1-94, 1-95, 1-96, 1-97, 1-98, 1-99, 1-100) 3-C, 3-D, 4-D

points ( $-21^\circ\text{C}$  or less) and high V.I. values (130 or more).

**PREFERRED CATALYSTS**

The catalysts have a hydrate level of 10-60, an N'/Al ratio of 0.007 or less and a surface F content of less than 1 wt.%.  
 The catalysts are prepd. by impregnating a gamma-alumina support with the metal (esp. Pt); calcining; fluoriding with an aq.  $NH_4F/HF$  soln. (pH 3.5-4.5) to a bulk F content of 8% or less, or with an aq. HF soln. (pH below 3.5) to a bulk F content of 10% or less; and drying at  $350-450$  (esp.  $375-425$ ) $^\circ\text{C}$  in air,  $O_2$ -contg. gas,  $H_2$  or an inert atmos. (8pp367CGDwgNo0/0).

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