

<p>84-159978/26 SHELL INT RES MIJ BV 17.12.82-NL-004884 (27.06.84) C07c-01/04 Prod'n. of hydrocarbon mixts. from synthesis gas - using catalyst mixt. contg. one crystalline aluminosilicate</p>	<p>E19 H04</p>	<p>SHEL 17.12.82 *EP -111-951-A</p>	<p>E(10-J2D) H(4-A7, 4-E5, 4-F2E) N(1-C, 1-C1, 2, 6-A)</p>	<p>087</p>
<p>C84-067468</p>	<p>D/S:BE DE FR GB IT NL</p>		<p>ing contacting the first stage effluent with a catalyst comprising Co, Ni and/or Ru and facilitating the formation of paraffinic hydrocarbons. In an alternative embodiment, the process is used as the first stage of a three-stage process, the second stage comprising contact with a silica-supported, Zr-, Ti- or Cr-promoted Co catalyst, and the 3rd stage comprising hydrotreating the high-boiling portion of the middle distillate fraction of the second-stage reaction prod.</p>	
<p>CLAIMED HYDROCARBON PRODUCTION</p>			<p>Hydrotreating can be effected with very low H₂ consumption and yields distillates having considerably lower pour points than those obtd. by conventional, direct Fischer-Tropsch synthesis.</p>	
<p>Synthesis gas is contacted at 200-500 (pref. 300-450)°C and 1-150(5-100)bar and at a GHSV of 50-5000 (300-3000) with a catalyst compsn. comprising a mixt. of (i) a catalyst (I) facilitating the formation of oxygenated organic cpds., and (ii) a crystalline aluminosilicate (II) having a specified X-ray powder diffraction pattern and a compsn. (after calcining, are pressed in moles of oxides) in which the SiO₂/Al₂O₃ ratio is 100-250. The catalyst mixt. pref. contains 2.5-12.5 pbw (I) per pbw (II), (I) pref. contg. Zn and additionally Cr(prefd), Cu and/or Al.</p>			<p>PREPARATION</p>	
<p>USES/ADVANTAGES</p>			<p>(II) is prepd. from an aq. reaction mixt. comprising alkali metal (M), Al and Si sources (such that after drying at 120°C and calcining at 500°C a product having a SiO₂ content of > 90 wt. % is obtained) and one or more quat. alkylammonium halides (in which the alkyl gps. are pref. 3-4C and are pref. the same and the halogen is pref. Br), the mixt. being maintained at elevated temps. until crystallisation takes place. The mole ratios of oxides in the mixt. are:</p>	
<p>In one specific embodiment, the process is used as the first stage of a two-stage process, the second stage compris-</p>			<p>ER-111951-A+</p>	

$M_2O:SiO_2 = 0.01-0.35$; $R_4NX:SiO_2 = 0.02-0.4$; $SiO_2:Al_2O_3 = 100-350$; and $H_2O:SiO_2 = 5-100$.

After 1 hr calcination at $500^\circ C$, the prod. has the specified SiO_2/Al_2O_3 ratio and an X-ray diffraction pattern in which the strongest lines ($d(A)$) are at 11.1 ± 0.2 ; 10 ± 0.2 ; 3.84 ± 0.07 ; and 3.72 ± 0.06 .

Pref. (II) has an alkali metal content of < 0.05 wt. %. The catalyst mixt. is pref. prepd. by spray drying aq. dispersion of (I) and (II). (19pp1639MHDwgNo0/0).

(E)ISR:EP--51326 EP--39964 EP--18683 US4188336 US4086262 US3702886