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 Prodn. of supported cobalt Fischer-Tropsch catalysts by
 impregnation and direct redn. at low heating rate
 C91-080970 R(BE DE FR GB NL)

Supported Co catalysts are prepd. by:
 (a) contacting support particles with a melt or soln. of
 a Co salt;
 (b) removing any liq. phase; and
 (c) reducing the Co to metallic form by heating in the
 presence of H₂ at a constant rate of less than 1°C/min to
 a maximum temp. of 200-500°C.

USE

The catalysts are useful for Fischer-Tropsch prodn.
 of 5C⁺ hydrocarbons from synthesis gas.

ADVANTAGES

Redn. w/without prior calcination simplifies the process
 and improves Co dispersion (i.e. ratio of surface Co to
 total Co), giving improved activity and 5C⁺ selectivity.

E(10-J2D3) H(4-E5, 4-F2E) J(4-E4) N(2-B, 6-E)

PREFERRED CONDITIONS

Step (a) is effected by contacting a refractory inor-
 ganic oxide support with molten Co(NO₃)₂ for less than
 10 sec, so that at least 95% of the Co(NO₃)₂ is deposited
 in a surface layer less than 200 microns thick. The sup-
 port is esp. SiO₂, MgO, Al₂O₃, SiO₂-Al₂O₃ or TiO₂ and
 has a surface area of 50-500 m²/g.

The heating rate in step (c) is less than 0.4°C/min.

EXAMPLE

Silica spheres (2.2 mm dia.) were calcined at 600°C for
 16 hr, giving a surface area of 80 m²/g and a pore vol.
 of 1 ml/g. The spheres (12.5 g) were placed on a bed
 of hollow glass beads in a vacuum filter, and a melt pro-
 duced by heating 50 g Co(NO₃)₂.6H₂O to 85-95°C was
 poured over the spheres to give a contact time of 2-4 sec.
 The spheres were dried at 120°C and then heated from
 room temp. to 350°C in H₂ at a rate of 0.2°C/min.

The Co dispersion was 5.5%. (26pp367SLDwgNo0/8).
 (E) ISR: No Search Report.