Title (en)

NOVEL TRANSITION METAL PHOSPHIDE CATALYSTS

Title (de)

NEUARTIGER ÜBERGANGSMETALLPHOSPHID KATALYSATOR

Title (fr)

NOUVEAUX CATALYSEURS DE PHOSPHURES D'UN METAL DE TRANSITION

Publication

EP 1240276 A4 20030702 (EN)

Application

EP 00966987 A 20000928

Priority

- US 0026603 W 20000928
- US 15670199 P 19990930

Abstract (en)

[origin: WO0123501A1] There is provided a transition metal phosphide catalyst that is active for hydrotreating hydrocarbon feedstocks. The catalyst comprises a transition metal phosphide complex supported on a high surface area support. The high surface area support may be selected from the group consisting of carbon, silica, alumina, titania, thoria, magnesia, zirconia, kaolin, bentonite, kieselguhr, zeolites and combination thereof. The transition metal phosphide complex may include a mixed metal phosphide complex. The catalyst comprises a metal phosphide complex having the formula MPx, where M is selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, Nb, Mo, Ta, and W, and where x is between about 0.1 and about 10; and an oxide support, where the metal phosphide complex is dispersed on the high surface area support. Further, the catalyst comprises a metal phosphide catalyst comprising a metal phosphide complex having the formula AaBbPy, where A and B are each selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, Nb, Mo, Ta, and W, where the sum of a and b is 1, the ratio of a to b is between about 0.01 and about 100, and y is between about 0.1 and about 10; and an oxide support, where the metal phosphide complex is dispersed on the high surface area support. Further, there is provided a method for hydrotreating a hydrocarbon feed using a transition metal phosphide catalyst. A method for hydrodesulfurization, including deep hydrodesulfurization, using the above catalysts is also described.

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