

Abstract

The present invention discloses a Ni-based catalyst useful in selective hydrogenation, comprising the following components supported on an alumina support: (a) 5.0 to 40.0wt.% of metallic nickel or oxide(s) thereof; (b) 0.01 to 20.0wt.% of at least one of molybdenum and tungsten, or oxide(s) thereof; (c) 0.01 to 10.0wt.% of at least one rare earth element or oxide(s) thereof; (d) 0.01 to 2.0wt.% of at least one metal from Group IA or Group IIA of the Periodic Table or oxide(s) thereof; (e) 0 to 15.0wt.% of at least one selected from the group consisting of silicon, phosphorus, boron and fluorine, or oxide(s) thereof; and (f) 0 to 10.0wt.% of at least one metal from Group IVB of the Periodic Table or oxide(s) thereof; with the percentages being based on the total weight of the catalyst. The catalyst is useful in the selective hydrogenation of a pyrolysis gasoline.