or dienes, which are undesirable compounds that compromise the subsequent use of olefins.

These compounds are eliminated from the cuts comprising light olefins by selective hydrogenation reactions. The catalysts employed in these reactions should be highly selective in that they should promote the hydrogenation of acetylene and / or dienes to olefins, without hydrogenating the olefins. They are usually catalysts having an active phase based on palladium that is deposited on an inorganic support of alumina or silica type.

Continuing its research in the field of hydrogenating catalysts, the Applicant has now discovered that catalysts that are particularly active and highly selective could be prepared by electroplating on a metal support specific layers of specific metals.

Summary

In a first aspect of the present disclosure, there is provided a process for the selective hydrogenation of hydrocarbon cuts containing alkenes and a substantial amount of dienes and / or alkynes having 2 to 12 carbon atoms, using a supported metal catalyst prepared by a method that comprises the following steps:

a) electroplating a layer of nickel on a metallic support, and then

b) electroplating a top layer of platinum and/or palladium,

characterized in that it comprises, between step a) and step b), an intermediate step e) consisting of electroplating a layer of one or more additional metal(s) that is (are) different from nickel and platinum group metals.

Description

Thus, the present invention relates to a method for preparing a supported metal catalyst for hydrogenating unsaturated hydrocarbons, characterized in that it comprises the following steps:

a) electroplating a layer of nickel on a metallic support, and then

b) electroplating a top layer of platinum and/or palladium.

The process according to the invention allows preparing catalysts for hydrogenating unsaturated hydrocarbons that are highly active and selective. These catalysts are specifically effective for the selective hydrogenation of hydrocarbons, particularly for the selective

hydrogenation of light olefins. The specific character of the catalysts of the invention is mainly their selectivity, that is to say their capacity to completely hydrogenate the diolefins and acetylenes (triple bonds) to olefins, without hydrogenating the olefins.

These catalysts also have the advantage of being highly resistant to wear and / or abrasion. Notably, the top layer of platinum and/or palladium adheres particularly well to the catalyst, less metal is removed over time than for some of the prior art catalysts, which ensures a good durability of the catalyst, and holds its level of activity over time very well.

These catalysts also have the advantage of being prepared from supports that can be made of low cost materials, such as materials already used in other applications, such as Raschig rings, Pall rings,