

A B S T R A C T

CATALYST COMPOSITION USEFUL FOR HYDROGENATION OF ALKYNES

A catalyst composition comprises palladium, at least one chemically bound alkali metal (preferably potassium), chemically bound fluorine and an inorganic support material (preferably alumina), wherein the atomic ratio of fluorine to alkali metals about 1.3:1 to about 4:1. Preferably, silver is also present in the catalyst composition. The above-described catalyst is employed as a catalyst in the selective hydrogenation of C_2C_{10} alkynes (preferably acetylene) to the corresponding alkenes in the presence of sulfur impurities.