

ABSTRACT

The present application relates to a phosphorus-alumina sol, a preparation method thereof, and use thereof as a binder in a hydrocarbon oil conversion catalyst; also relates to a hydrocarbon oil conversion catalyst, a preparation method thereof, and a hydrocarbon oil catalytic conversion method using the catalyst. The phosphorus-alumina sol provided by the present application has an appropriate colloidal particle size, a high degree of polymerization, high stability, and good binding properties. When used in a molecular sieve-containing catalyst, e.g., a FCC catalyst, it can reduce blockage of molecular sieve pores and channels, and synergistically act with other matrix materials in the catalyst to improve the hydrothermal stability, catalytic performance, and mechanical strength of the catalyst.

Fig.1