A catalyst composition is prepared by a method comprising impregnating alumina with at least one platinum compound, followed by treatment with at least one organoaluminum chloride (preferably ethylaluminum dichloride), titanium tetrachloride and at least one chloroalkane (preferably carbon tetrachloride). The thus-prepared catalyst composition is employed in the isomerization of saturated C4-C8 hydrocarbons (alkanes and/or cycloalkanes), preferably n-butane.

5536694

CATALYST PRECURSOR FOR AN ACTIVATED RANEY METAL FIXED-BED CATALYST, AN ACTIVATED RANEY METAL FIXED-BED CATALYST AND A PROCESS FOR ITS PREPARATION AND USE, AND A METHOD OF HYDROGENATING ORGANIC COMPOUNDS USING SAID CATALYST

Schuetz Peter; Burmeister Roland; Despeyroux Bertrand; Moesinger Hans; Krause Helmfried; Deller Klaus Linsengericht, GERMANY assigned to Degussa Aktiengesellschaft

Shaped, activated Raney metal fixed-bed catalysts are obtained by molding a powder of at least one catalyst alloy, comprising at least one Raney process metal as catalytically active component and a leachable alloy component, and a powder of pure Raney process metal as binder with the addition of a shaping aid and pore-producer and subsequent calcination at temperatures below 850 degrees C. During calcination the shaping aid and pore-producer are burned away. Catalyst alloy powder and binder powder thereby sinter together to give a mechanically stable and porous molded item. This molded item thus consists of particles of catalyst alloys which are bonded by the powder of pure Raney process metal. It has no catalytically inactive, ceramic or glassy binder. The surface layer of the molded item is activated by leaching the leachable alloy component contained in the catalyst alloys with caustic soda solution.

5536695

DEHYDROGENATION CATALYSTS FOR C3C20 PARAFRINS, AND PREPARATION THEREOF

Blejean Franck; Le Pettier Fabienne; Didillon Blaise Paris, FRANCE assigned to Institut Francais Du Petrole

The invention concerns a catalyst containing a support comprising at least one metal from group VIII of the periodic classification of elements such as platinum, palladium, ruthenium, rhodium, nickel, osmium or iridium, at least one additional metal selected from the group formed by groups IIB, IIIA, IVA, IVB, VA, VB, VIIB and VIII and at least one metal selected from the group formed by alkali and alkaline-earth metals,characterized in that said alkali or alkaline-earth metal is at least partially contained in the support in the form of an aluminate. The invention also concerns the preparation and use of said catalyst for dehydrogenation of C3-C20 paraffins.

5536894

MCM-56 AS SORBENT AND CATALYST COMPONENT

Degnan Thomas; Fung Anthony; Helton Terry; Lawton Stephen L; Lissy Daria N; Roth Wieslaw Moorestown, NJ, UNITED STATES assigned to Mobil Oil Corporation

This invention relates to use of synthetic layered material MCM-56 as a sorbent and as a catalyst component in catalytic conversion of organic compounds. Examples of sorbent use include rapid sorption of hydrocarbons and separating at least one hydrocarbon component from a mixture of hydrocarbon components having differential sorption characteristics with respect to MCM-56. Examples of catalytic use include acid catalyzed reactions, such as cracking, aromatic compound alkylation, and isoalkane alkylation.

5538624

PROCESS, APPARATUS AND COMPOSITIONS FOR RECYCLE OF CRACKING CATALYST ADDITIVES

Hettinger William Deerfield Beach, FL, UNITED STATES assigned to Ashland Inc

An improved catalytic process for heavy hydrocarbon conversion (usually but not necessarily in the presence of nickel and vanadium in the feedstock and on the catalyst) to produce lighter and selective molecular weight fractions. This process is specifically targeted as a means of retaining specialty high-valued, preferably microspherical additives (SHVA) which assist in attaining preferred conversion products such as gasoline, especially the recent gasolines meeting compositional requirements of Reformulated Fuel. Selective magnetic retention of these high-cost specialty additives can be achieved by incorporating into them selective magnetic moieties, preferably manganese, the heavy rare earths and superparamagnetic iron. Selective retention is achieved by passing spent or regenerated catalyst containing small amounts of these SHVAs through a magnetic separator, and selectively recycling them back to the circulating catalyst.

5538931

TRANSITION METAL AEROGEL-SUPPORTED CATALYST

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A process for preparing a supported catalyst comprising a transition metal selected from palladium, platinum, nickel, cobalt or copper on an aerogel support, which includes the steps of providing a mixture containing an alkoxide precursor of the aerogel, a chelate complex of the transition metal with a chelating agent having Si(OR)3 anchor groups, and an organic solvent in which the chelate complex is soluble; hydrolyzing the mixture by admixing it with water to form a gel; and converting the gel under supercritical conditions into the transition metal aerogel-supported catalyst. The supported catalyst has an especially homogeneous distribution of the metal component and is suitable, for example, for use as a hydrogenation catalyst.