and further comprising at least one metal selected from the group consisting of Group IB, Group IVA, Group VB, Group VIIB, Group VIII, and mixtures thereof. An example of this catalyst is zirconia, modified with tungstate, and iron. This method may be used for reducing emissions of nitrogen oxides from waste gases, including industrial exhaust gases and automobile exhaust gases. In a particular embodiment, nitrogen oxides in waste gases may be reacted with ammonia before the waste gases are discharged to the atmosphere.

5552129

CATALYTIC SYSTEM FOR THE REDUCTION OF NITROGEN OXIDES

Farnos Maria D; McWilliams John Wilmington, DE, UNITED STATES assigned to Mobil Oil Corporation

There is presented a specially prepared catalyst and a process for the treatment of exhaust gas with that catalyst, which is useful for the selective catalytic reduction of NOx contained in the exhaust gas. An embodiment of the process of this invention comprises a catalytic stage to selectively catalytically reduce NOx over a catalyst composition comprising a metal and an in-situ crystallized zeolite, ZSM-5. The catalyst of this invention may be formed into a desired shape, e.g., by extrusion, and finished in a humidified atmosphere after forming.

5559069

CATALYSTS FOR HALOGENATED HYDROCARBON PROCESSING, THEIR PRECURSORS AND THEIR PREPARATION AND USE

Rao V N Mallikarjuna; Subramanian Munirpallam A Wilmington, DE, UNITED STATES assigned to E I du Pont de Nemours and Company

A process is disclosed for changing the fluorine content of halogenated hydrocarbons containing from 1 to 6 carbon atoms, in the presence of a multiphase catalyst, which is characterized by preparing certain single phase solid catalyst precursors containing two metal components (e.g., a divalent component of Mn, Co, Zn, Mg and/or Cd and a trivalent component of Al, Ga, Cr and/or V) which have structures that collapse at about 600°C or less; and producing said catalyst by heating the precursor to produce a multiphase composition wherein a phase containing one of the metal components is homogeneously dispersed with a phase containing the other metal component, and at least when the precursor contains no fluoride, contacting said multiphase composition with a vaporizable fluorine-containing fluorination compound at a temperature of from about 200°C to 450°C. Also disclosed are single phase fluoride compositions having the formula MM'F5(H2O)2 wherein M is a divalent component selected from Mn, Co, Zn, Mg and/or Cd and M' is a trivalent component selected from Al, Ga, Cr and/or V (provided that Cr is not more than about 10 atom percent of M'); preparation of certain homogeneously dispersed multiphase catalyst compositions containing fluorides of those divalent and trivalent metal components; and certain homogeneously dispersed multiphase catalyst compositions containing fluorides of those divalent and trivalent metal components (provided that when Co is used another of said divalent elements is also used).

5559071

CATALYST, PROCESS FOR THE PRODUCTION THEREOF, AND USE THEREOF FOR THE PREPARATION OF VINYL ACETATE

Abel Roland; Wuml orner Karl-Fre Oberhausen, GERMANY assigned to Hoechst Aktiengesellschaft

Surface impregnated catalyst, process for the production thereof, and use thereof for the preparation of vinyl acetate. The invention relates to Pd/K/Au, Pd/K/Ba or Pd/K/Cd supported catalysts built up in the form of an outer layer, the production thereof and also the use thereof for preparing vinyl acetate from ethylene, acetic acid and oxygen in the gas phase. The catalysts specified are produced by impregnating the support particles, while mixing intimately, with a solution of salts of the corresponding elements and then drying the support particles immediately,with the dynamic viscosity of the solution being at least 0.003 Pa*s and the solution volume in impregnation being from 5 to 80% of the pore volume of the support particles.

5559072

NOX REMOVAL CATALYST AND METHOD OF PURIFYING EXHAUST GAS BY USING THE SAME

Itoh Takashi; Kosaki Yukio; Chonan Takeshi; Matsuda Takashi; Kanno Yasuharu; Wakabayashi Masao; Nakamura Makoto Ichikawa, JAPAN assigned to N E Chemcat Corporation; Sumitomo Metal Mining Co Ltd

A NOx removal catalyst resistant to high temperatures, comprising an activated alumina wherein the specific surface area measured by the nitrogen adsorption method is 120 m2/g or more, the bulk density measured by the mercury porosimetry is 0.60 g/cm3 or more, and the skeleton density measured by the mercury porosimetry is 1.80 g/cm3 or less and silver carried on said activated alumina. When said catalyst or a structure having said catalyst coated on a substrate is brought in contact with exhaust gas from an internal combustion engine that is operated at a lean fuel/air ratio, such as a lean-burn engine, NOx can be removed efficiently within a quite short contact time.

CATALYTIC HYDROCARBON

5552357

CATALYST MODIFICATION FOR SHAPE SELECTIVE HYDROCARBON CONVERSIONS

Lago Rudolph M; Marler David O; McCullen Sharon B; Olson David Yardley, PA, UNITED STATES assigned to Mobil Oil Corporation

A process for shape selective hydrocarbon conversion involves contacting a hydrocarbon feedstream under conversion conditions with a catalytic molecular sieve which has been modified by treatment with an amino silane polymer while molecular sieve acid sites are protected. When the process is toluene disproportionation, a toluene feedstream may also contain a second silicon source which is a high p-xylene selectivating agent. The invention also includes the modification method and the shape selective catalyst which results from the modification.

5552363

HALOGEN RESISTANT HYDROGENATION PROCESS AND CATALYST

Pannell Richard B; Maroie Serge M J P Kingwood, TX, UNITED STATES assigned to Exxon Chemical Patents Inc

A process has been developed for decolorizing (and/or hydrogenating, and/or dehalogenating) a halogen containing unsaturated feedstock and/or polymeric resins. The process has the advantage of being substantially less affected by prolonged exposure to halogen contaminants and impurities than typical hydrogenation catalysts. A novel catalyst comprising (a) one or more metals selected