

carbonate is disproportionated by transesterification.

5569785

ATTRITION RESISTANT ZEOLITE CATALYSTS FOR PRODUCTION OF METHYLAMINES IN FLUIDIZED BED REACTORS

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This invention provides an attrition resistant catalyst composition and method for producing such composition. The catalyst is comprised of an acidic zeolite, rho or chabazite, and a particulate binder, kaolin, bentonite, alpha-alumina, or titania, which can be optionally modified by treatment with a compound containing Si, Al, P or B. This invention further provides a process for producing methylamines, preferably dimethylamine, comprising reacting methanol and/or dimethyl ether and ammonia in the presence of a catalytic amount of an attrition resistant catalyst of the invention.

5569795

FLUORINATION CATALYST AND FLUORINATION PROCESS

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A fluorination catalyst comprising indium, chromium, oxygen and fluorine as essential constituent elements thereof. The catalyst is prepared by fluorinating a catalyst precursor comprising indium and chromium elements by bringing it into contact with hydrogen fluoride or a fluorine-containing halogenated hydrocarbon at a

temperature of 300° to 500° C. A halogenated hydrocarbon is fluorinated by bringing it into contact with hydrogen fluoride in a gaseous phase in the presence of the catalyst.

5569802

CATALYST, PROCESS FOR THE PREPARATION THEREOF AND PROCESS FOR THE SELECTIVE HYDROGENATION OF UNSATURATED COMPOUNDS

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The present invention relates to a catalyst for the selective hydrogenation of an unsaturated compound, based on a noble metal and/or a noble-metal oxide on an aluminum oxide support, and to a process for the preparation of the catalyst. The present invention further relates to a process for the selective hydrogenation of unsaturated compounds.

5583241

FLUOROALKYL-SUBSTITUTED FERROCENYL DIPHOSPHINES AS LIGANDS FOR HOMOGENEOUS CATALYSTS

Spindler Felix Starrkirch Wil, SWITZERLAND assigned to Ciba-Geigy Corporation

Compounds of formula I (*See Patent for Chemical Structure*) (I) wherein R1 is C1-C8alkyl, phenyl or phenyl which is substituted by 1 to 3 C1-C4alkyl or C1-C4alkoxy groups; R2 is a radical of formula II (*See Patent for Chemical Structure*) (II) wherein R12 is C1-C5alkyl which is partially or completely

fluorinated; R13 is C1-C4alkyl, C1-C4alkoxy, -SiR4R5R6, halogen, -SO3M, CO2M, -PO3M, -NR7R8 or -(positive earthNR7R8R9)X negative earth; m is an integer from 1 to 3, n is 0 or an integer from 1 to 4, and the sum of m+n is 1 to 5; R3, R10, R11 have each independently of one another the same meaning as R2 or are each independently of one another C1-C12alkyl, C5-C12cycloalkyl, phenyl, C1-C4alkyl- or C1-C4alkoxy-substituted C5-C12cycloalkyl, or phenyl which is substituted by one to three identical or different members selected from the group consisting of C1-C4alkyl, C1-C4alkoxy, -SiR4R5R6, halogen, -SO3M, -CO2M, -PO3M, -NR7R8 and -(positive earthNR7R8R9)X negative earth; R4, R5 and R6 are each independently of one another C1-C12alkyl or phenyl; R7 and R8 are H, C1-C12alkyl or phenyl or R7 and R8, taken together, are tetramethylene, pentamethylene or 3-oxa-1,5-pentylene; R9 is H or C1-C4alkyl, M is H or an alkali metal, X negative earth is the anion of a monobasic acid, and * is a stereogenic carbon atom, in the form of their racemates and diastereoisomers or mixtures of diastereoisomers. Rhodium and iridium complexes with these ligands are suitable for use as homogeneous enantioselective catalysts for the hydrogenation of prochiral compounds containing carbon double bonds or carbon/hetero atom double bonds.

5585077

MOLYBDENUM EPOXIDATION CATALYST RECOVERY

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An aqueous epoxidation process stream containing molybdenum and sodium values and organics is treated for organics removal as by incineration and an aqueous solution containing molybdenum and sodium is recovered, acidified and reacted with a

calcium compound to form solid CaMoO4 which is separated.

5585451

SILICONE CONDENSATION AND/OR EQUILIBRATION CATALYST AND USE

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A silanol condensation-equilibration catalyst is provided in the form of a mixture of a linear phosphonitrilic chloride and an effective amount of a protic acid having a $pK_a \leq 5$, such as HCl. A material capable of generating a protic acid in situ during equilibration, such as an organohalosilane, is also effective.

5585523

PROCESS FOR THE PREPARATION OF ALDEHYDES BY CATALYTIC GAS PHASE HYDROGENATION OF CARBOXYLIC ACID OR THEIR DERIVATIVES WITH THE AID OF A TIN CATALYST

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Process for the preparation of aldehydes by catalytic gas phase hydrogenation of carboxylic acid or their derivatives with the aid of a tin catalyst. The invention relates to a process for the preparation of aldehydes by catalytic gas phase hydrogenation of carboxylic acids or carboxylic acid derivatives at elevated temperature, which comprises employing a tin catalyst supplied to an oxidic support material.