A process for producing a vanadium-phosphorus oxide-containing catalyst precursor, which comprises (a) introducing into an organic solvent a vanadium alkoxide as a pentavalent vanadium compound and a phosphorus compound in the presence of a reducing agent capable of reducing the pentavalent vanadium compound to a tetravalent state, (b) hydrolyzing at least a part of the vanadium alkoxide before or after the introduction of the phosphorus compound, and (c) heating the vanadium-containing liquid medium obtained in step (b), in the presence of the phosphorus compound to reduce at least a part of vanadium to a tetravalent state.

5597936

METHOD FOR MANUFACTURING COBALT CATALYSTS

Perkins Christopher M; Sivik Mark R Cincinnati, OH, UNITED STATES assigned to The Procter & Gamble Company

A method for manufacturing cobalt complexes having the formula:(*See Patent for Tabular Presentation*) PS wherein M ligands are selected from substituted and unsubstituted C1-C30 carboxylic acids having the formulas:(*See Patent for Tabular Presentation*) PS said method comprising reacting cobalt (II) complexes having the formula (Co(H2O)6) Ty (e.g., T is chloride) with concentrated ammonium hydroxide/ammonium chloride, followed by an oxidizing agent (e.g., peroxide), followed by carboxylic acid anhydride of the formula RC(O)O(O)CR.

NEW HETEROGENEOUS FORMULATIONS

5565086

CATALYST COMBINATION FOR IMPROVED WAX ISOMERIZATION

Cody Ian A; Ravella Alberto Clearwater, CANADA assigned to Exxon Research and Engineering Company

The present invention is directed to an improved isomerization process employing a catalyst wherein the catalyst comprises a pair of catalyst particles of different acidity utilized either as distinct beds of such discrete particles or as a mixture of such discrete particles. The isomerization process utilizing such a catalyst produces a product which exhibits higher VI as compared to products produced using either catalyst component separately or using a single catalyst having the average acidity of the two discrete catalysts.

5565089

PROCESS FOR DECOKING CATALYSTS

Ramachandran Ramakrishna; Menon Raghu K Allendale, NJ, UNITED STATES assigned to The BOC Group Inc

Coke deposits are removed from particulates by combustion in a regenerator by a process in which air is initially used as the oxidant. The combustion gas is subjected to a separation process to remove nitrogen therefrom, and the remaining carbon dioxide-enriched gas stream is recycled to the regenerator together while substantially pure oxygen is introduced into the regenerator. As the level of carbon dioxide in the system increases, the amount of air being introduced into the regenerator

is gradually reduced and, in compensation, the amount of oxygen flowing to the regenerator is gradually increased. Eventually, part or all of the air is replaced by oxygen and carbon dioxide recycle gas, and the level of oxygen and carbon dioxide are regulated to maintain the desired temperature in the regenerator.

5565399

CO OXIDATION PROMOTER AND USE THEREOF FOR CATALYTIC CRACKING

Fraenkel Dan; Moselle Inez L East Brunswick, NJ, UNITED STATES

CO promoter particles for an FCC unit comprising transition alumina and containing at least 3% cerium oxide and from 2 to 8% lanthanum oxide.

5565400

HYDROTHERMALLY STABLE METAL OXIDE SOLID SOLUTIONS AS CARRIERS FOR CATALYTIC COMPOSITES

Holmgren Jennifer S Bloomingdale, IL, UNITED STATES assigned to UOP

Ternary metal oxide solid solutions containing permutations of magnesium,nickel, and cobalt with trivalent metals such as aluminum, chromium, gallium, and iron show unusual resistance to rehydration. A composite comprising a) a ternary metal oxide solid solution of formula, (*See Patent for Tabular Presentation*) PS where: a, b, and c are atom fractions of A(II), B(II), and C(III), respectively; C(III) is a trivalent metal cation whose metal is selected from the group consisting of Al, Cr, Ga, Fe, and combinations thereof, and combinations of Al and metals of atomic number 57 through 71; A(II) and B(II) are divalent metal cations and i. A is Mg, B is Ni, and 0.05< or =a/(a+b)< or =0.5; or ii. A is Mg, B is Co, and 0.05< or =a/(a+b)< or =0.75; or iii. A is Co, B is Ni, and 0.05< or =a/(a+b)< or =0.95; and 1.5< or =(a+b)/c< or =5.0; and b) at least one catalytically active species selected from the group consisting of zeolites, synthetic molecular sieves; clays and pillared clays; and molybdenum, vanadium, copper, chromium, manganese, silver, and titanium in an upper valence state, are hydrothermally stable catalysts.

5569633

ION TRANSPORT MEMBRANES WITH CATALYZED DENSE LAYER

Carolan Michael F; Dyer Paul N Allentown, PA, UNITED STATES assigned to Air Products and Chemicals Inc

The present invention relates to surface catalyzed ion transport membranes which demonstrate superior oxygen flux. The membranes comprise a dense multicomponent metallic oxide layer having a first surface and a second surface wherein the first surface is coated with a catalyst such as a metal or an oxide of a metal selected from Groups II, V, VI, VII, VIII, IX, X, XI, XV and the F Block lanthanides of the Periodic Table of the Elements. One or more porous layers formed from a mixed conducting multicomponent metallic oxide or a material which is not mixed conducting under process operating conditions may be formed contiguous to the second surface of the dense layer. The claimed membranes are capable of separating oxygen from oxygen-containing gaseous mixtures.