

A formed copper catalyst for the hydrogenation of organic compounds is disclosed, especially for the selective hydrogenation of furfural to furfuryl alcohol. The catalyst contains an intimate mixture of a pyrogenic silica, reduced copper and, optionally, a basic oxide as promotor. The catalyst is distinguished by a high specific catalytic activity, selectivities and yields.

**5591878**

**CATALYZED PROCESS FOR  
PRODUCING METAL  
CARBOXYLATES FOR USE AS  
ANIMAL FEED SUPPLEMENTS**

Nelson Christopher; Catron Douglas Des Moines, IA, UNITED STATES assigned to Kemin Industries Inc

A catalyzed process is disclosed for producing a polyvalent metal C2-C3 carboxylate having the formula  $M(\text{CH}_3(\text{CH}_2)_x\text{COO})_y$ , wherein M is the polyvalent metal cation that is manganese ( $\text{Mn}^{+2}$ ), cobalt ( $\text{Co}^{+2}$ ), or chromium ( $\text{Cr}^{+3}$ ), x is zero or 1 and y is an integer equal to the cationic charge of M. The polyvalent metal C2-C3 carboxylate is prepared by admixing (i) a dry polyvalent metal compound that is an oxide, hydroxide or carbonate of  $\text{Mn}^{+2}$ ,  $\text{Co}^{+3}$  or  $\text{Cr}^{+3}$ , (ii) an anhydrous C2-C3 carboxylic acid, and (iii) a catalytic agent at a relative molar ratio of about 1:2-10:0.01-3 in the absence of an added solvent or other diluent to form a reaction mixture. The reaction mixture is heated to complete the reaction, remove the produced water and about 80 percent of the unreacted carboxylic acid. The product in residual carboxylic acid is solidified, ground and the product is recovered. The metal carboxylates can be used as biologically available and economical sources of trace metal ions for supplementation in animal diets.

**5597773**

**ETHYLENE OXIDE CATALYST AND  
PROCESS**

Evans Wayne; Mesters Carolus M A Richmond, TX, UNITED STATES assigned to Shell Oil Company

This invention relates to ethylene oxide catalyst for the vapor phase production of ethylene oxide from ethylene and oxygen prepared by impregnating a porous, refractory support having a surface area ranging from about 0.05 to about 10 m<sup>2</sup>/g with a solubilized catalytically effective amount of silver, a solubilized promoting amount of alkali metal, a solubilized promoting amount of rhenium, and a solubilized promoting amount of hafnium metal, wherein the Group IVB metal is provided in the form of Group IVB oxycation-containing salts. The catalyst provide substantial initial activity improvement as well as long term selectivity and activity stability improvement over prior art rhenium promoted catalyst, without any loss of initial selectivity advantage.

**PETROLEUM AND  
PETROCHEMICALS**

**35406**

**BARIUM TITANIUM  
OXIDE-CONTAINING FLUIDIZABLE  
CRACKING CATALYST  
COMPOSITION**

Groenenboom Cornelis J Driehuis, NETHERLANDS assigned to Akzo N V

A cracking catalyst composition comprising a zeolitic, crystalline aluminosilicate, a matrix material and a barium titanium oxide. The catalyst

composition is particularly suitable for cracking metal-containing hydrocarbon feedstocks.

**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.

**5569805**

### **CATALYTIC CONVERSION OF AROMATIC COMPOUNDS**

Beck Jeffrey; Valyocsik Ernest W; Venkat Chaya Princeton, NJ, UNITED STATES assigned to Mobil Oil Corporation

A process is provided for catalytic conversion of feedstock comprising aromatic compounds to product comprising aromatic compounds which differs from said feedstock. The catalyst required in the process comprises a crystalline material having the structure of MCM-58. Said crystalline material may have been treated with one or more monomeric or polymeric siloxane compounds which decompose to oxide or non-oxide ceramic or solid-state carbon species.