

The invention concerns novel zeolite Y containing catalyst compositions and the use thereof for the treatment of oxygenated effluents containing nitrogen oxides. The invention further concerns the preparation of such novel zeolite Y containing catalyst compositions.

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**CATALYST CONTAINING ZEOLITE  
BETA**

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A composition of matter comprising both (1) zeolite Beta and a (2) Y zeolite having either a unit cell size below about 24.45 angstroms or a water vapor sorption capacity at 25 degrees C at P/Po of 0.10 or less than 10.00 weight percent. Typical of the Y zeolites used in the composition of the invention is a UHP-Y zeolite such as LZ-10 zeolite. The composition is especially suited for use in combination with one or more hydrogenation components as a catalyst for hydrocracking various types of feedstocks to produce either gasoline or middle distillate products.

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**CATALYTIC COMPOSITION AND A  
PROCESS FOR THE DIMERIZATION  
OF OLEFINS**

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The invention is concerned with a catalytic composition resulting from dissolving a nickel complex mixed or complexed with a tertiary

phosphine in the medium resulting from mixing at least one quaternary ammonium halide and/or at least one quaternary phosphonium halide, at least one aluminum halide, at least one aromatic hydrocarbon and optionally an aluminum organometallic compound. The invention is also concerned with a process for the dimerization, codimerization and oligomerization of olefins with this composition.

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**COBALT CATALYSTS AND A  
PROCESS REQUIRED FOR THEIR  
PREPARATION**

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Cobalt catalysts whose catalytically active material comprises from 55 to 98 wt % of cobalt, from 0.2 to 15 wt % of phosphorus, from 0.2 to 15 wt % of manganese, and from 0.2 to 15 wt % of alkali metal, calculated as oxide, in which the catalyst material is calcined in a first step at final temperatures of from 550 degrees to 750 degrees C and in a second step at final temperatures of from 800 degrees to 1000 degrees C, and a process for the hydrogenation of organic nitriles and/or imines, in which the novel cobalt catalyst is used.

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**ISOMERIZATION CATALYST AND  
USE THEREOF IN ISOMERIZATION  
OF SATURATED HYDROCARBONS**

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