

Abstract**MECHANICALLY STABLE CATALYST BASED ON ALPHA-ALUMINA**

A catalyst for gas-phase reactions which has high mechanical stability and comprises one or more active metals on a support comprising aluminum oxide as support material, wherein the aluminum oxide in the support consists essentially of alpha-aluminum oxide.

Ruthenium, copper and/or gold are preferred as active metal.

Particularly preferred catalysts according to invention comprise

- a) from 0.001 to 10% by weight of ruthenium, copper and/or gold,
- b) from 0 to 5% by weight of one or more alkaline earth metals,
- c) from 0 to 5% by weight of one or more alkali metals,
- d) from 0 to 10% by weight of one or more rare earth metals,
- e) from 0 to 10% by weight of one or more further metals selected from the group consisting of palladium, platinum, osmium, iridium, silver and rhenium,

in each case based on the total weight of the catalyst, on the support comprising alpha- Al_2O_3 .

The catalysts are preferably used in the oxidation of hydrogen chloride (Deacon reaction).

(No Suitable Figures)