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ABSTRACT

HYDROGENATION OF BENZENEPOLYCARBOXYLIC ACIDS OR DERIVATIVES THEREOF USING A CATALYST CONTAINING MACROPORES

A process for hydrogenating a benzenepolycarboxylic acid or a derivative thereof or
a mixture of two or more thereof by bringing the benzenepolycarboxylic acid or the
derivative thereof or the mixture of two or more thereof into contact with a
hydrogen-containing gas is carried out in the presence of a catalyst which comprises
as active metal at least one metal of transition group VIII of the Periodic Table alone
or together with at least one metal of transition group I or VII of the periodic table
applied to a support which contains macropores with the proviso that
if dimethyl terephthalate is hydrogenated, the hydrogenation using a catalyst which
comprises as active metal ruthenium either alone or together with at least one metal
of transition group I, VII or VIII of the Periodic Table applied to a support, where
the support has a mean pore diameter of at least 50 nm and a BET surface area of at
most 30 m²/g and the amount of the active metal is from 0.01 to 30% by weight,
based on the total weight of the catalyst, and the ratio of the surface areas of the
active metal and the catalyst support is less than 0.05,
and/or
a catalyst which comprises as active metal ruthenium either alone or together with at
least one metal of transition group I, VII or VIII of the Periodic Table in an amount
of from 0.01 to 30% by weight, based on the total weight of the catalyst, applied to a
support, where from 10 to 50% of the pore volume of the support is formed by
macropores having a pore diameter in the range from 50 nm to 10,000 nm and from
50 to 90% of the pore volume of the support is formed by mesopores having a pore
diameter in the range from 2 to 50 nm, where the sum of the pore volumes adds up

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to 100%. is excluded. and novel hydrogenation products. obtainable by hydrogenating benzenepolycarboxylic acid (derivatives) as well as their use as plasticizers in plastics.