

Title (en)

METHOD FOR PRODUCTION OF NANOPARTICLES WITH CUSTOM SURFACE CHEMISTRY AND CORRESPONDING COLLOIDS

Title (de)

VERFAHREN ZUR HERSTELLUNG VON NANOPARTIKELN MIT MASSGESCHNEIDERTER OBERFLÄCHENCHEMIE UND ENTSPRECHENDEN KOLLOIDEN

Title (fr)

PROCEDE DE PRODUCTION DE NANOPARTICULES A CHIMIE DE SURFACE SUR MESURE ET COLLOIDES CORRESPONDANTS

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Application

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Abstract (en)

[origin: WO2006037591A2] The invention relates to a method for production of a suspension of crystalline and/or consolidated, surface-modified, nanoscale particles in a dispersant, whereby said method comprises the following steps: a) a suspension of amorphous or partly-crystalline, non-surface-modified nanoscale particles is thermally-treated in a dispersant to crystallize and/or consolidate the particles and b) the suspension of the crystallised and/or consolidated non-surface-modified, nanoscale particles in the dispersant from (a) or in another dispersant is activated by mechanical stress in the presence of a modifier, such that the particles are surface-modified by the modifier to give a suspension of crystalline and/or consolidated surface-modified nanoscale particles. The dispersant can be removed from the obtained colloid to give the corresponding powder. Said method provides highly-dispersed particles with an average particle diameter of less than 20 nm which can be provided with a custom surface chemistry in a simple manner for the relevant application.

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