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(54) Title: NANOCRYSTALLINE SPHERICAL CERAMIC OXIDES, PROCESS FOR THE SYNTHESIS AND USE THEREOF

(57) Abstract: The present invention refers to nanocrystalline spherical ceramic oxides, to the process for the synthesis and use thereof. These oxides, obtained by detonation of a water-in-oil emulsion (W/O), besides having a spherical morphology and nanocrystallinity, show a set of complementary features, namely a particle dimension inferior to 40 µm, bimodal particle size distribution, high purity, deagglomeration and stable crystalline stages. This set of features makes these powders particularly suitable for several applications such as coating processes, near net shape processes and, when applied in ceramics industry, they provide dense and porous ceramic objects of exceptionally high mechanical resistance.



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