

Mechanical Production of Nanoparticles in Stirred Media Mills



Filesize: 6.52 MB

Reviews

*Merely no terms to spell out. We have read through and i also am confident that i will gonna read yet again again in the future. You will not sense monotony at anytime of your own time (that's what catalogs are for about should you question me).
(Pasquale Larkin I)*

MECHANICAL PRODUCTION OF NANOPARTICLES IN STIRRED MEDIA MILLS



Cuvillier Verlag Jun 2007, 2007. Taschenbuch. Book Condition: Neu. 211x147x14 mm. Neuware - Nanotechnology applications in the pharmaceutical, materials, and chemical industries has renewed interest in the use of wet grinding in stirred media mills for the production of nanoparticles with controlled microstructure. Quite recently it is possible to mill particles down to the size range of 10 nm. However, challenges arise in the production of sub-micron particles that are, in part, due to colloidal surface forces influencing slurry stability and rheology. In this work experiments are performed on a well characterized model system of monodisperse primary nanoparticles that are salt destabilized and aggregated under various milling conditions. Perikinetic and orthokinetic aggregation are measured, with the latter in a laminar shear flow as well as in a stirred media mill, to examine the effects of colloidal stability and flow on the aggregation process. The agglomeration kinetics are measured using dynamic light scattering (DLS) as a function of electrolyte concentrations. Further information on the agglomeration process and the structure of the agglomerates are also obtained from small angle neutron scattering (SANS) and rheo-optical light scattering (ROA) experiments both at rest and under flow. Theoretical predictions for the colloidal stability from independently measured particle and solution properties compare well with the experimental results. Orthokinetic aggregation is observed to result in faster aggregation and denser agglomerates. Because of the high industrial demand for nanoparticles in organic media the study was extended to non-aqueous systems. Electrostatic stabilization requires a sufficiently high surface charge leading to a steeply decaying surface potential. These conditions can be met by solvents of medium dielectric constant (i.e. values larger than about 15-20), e.g. alcohols. In these media the particles may carry a high surface charge and the solubility of salts will be sufficient to enable a high repulsive barrier....



[Read Mechanical Production of Nanoparticles in Stirred Media Mills Online](#)



[Download PDF Mechanical Production of Nanoparticles in Stirred Media Mills](#)

Related Kindle Books



Programming in D

Ali Cehreli Dez 2015, 2015. Buch. Book Condition: Neu. 264x182x53 mm. This item is printed on demand - Print on Demand Neuware - The main aim of this book is to teach D to readers...

[Read eBook »](#)



Adobe Indesign CS/Cs2 Breakthroughs

Peachpit Press, 2005. Softcover. Book Condition: Neu. Gebraucht - Sehr gut Unbenutzt. Schnelle Lieferung, Kartonverpackung. Abzugsfähige Rechnung. Bei Mehrfachbestellung werden die Versandkosten anteilig erstattet. - Adobe InDesign is taking the publishing world by storm and...

[Read eBook »](#)



Comic Maths: Sue: Fantasy-Based Learning for 4, 5 and 6 Year Olds (Paperback)

The Captain Papadopoulos Publishing Company, United Kingdom, 2012. Paperback. Book Condition: New. Brian Williamson (illustrator). 276 x 214 mm. Language: English . Brand New Book ***** Print on Demand *****.Comic Maths: Sue (Key Stage 1,...

[Read eBook »](#)



Have You Locked the Castle Gate?

Addison-Wesley Professional. Softcover. Book Condition: Neu. Gebraucht - Sehr gut Unbenutzt. Schnelle Lieferung, Kartonverpackung. Abzugsfähige Rechnung. Bei Mehrfachbestellung werden die Versandkosten anteilig erstattet. - Is your computer safe Could an intruder sneak in and steal...

[Read eBook »](#)



The Java Tutorial (3rd Edition)

Pearson Education, 2001. Softcover. Book Condition: Neu. Gebraucht - Sehr gut Unbenutzt. Schnelle Lieferung, Kartonverpackung. Abzugsfähige Rechnung. Bei Mehrfachbestellung werden die Versandkosten anteilig erstattet. - Praise for "The Java' Tutorial, Second Edition" includes: "This book...

[Read eBook »](#)