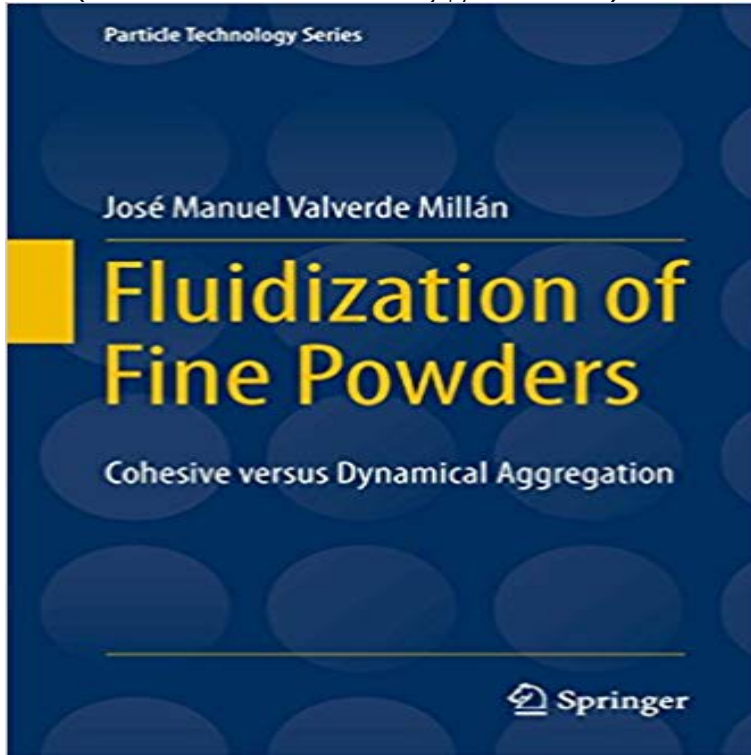


# Fluidization of Fine Powders: Cohesive versus Dynamical Aggregation: 18 (Particle Technology Series)



This book covers the rich phenomenology exhibited by fine powders when they are fluidized by a gas flow. Fine powder cohesiveness leads to poor flowability, clumping, difficulty in fluidizing, irregular avalanching behavior, etc. Despite all the inconveniences, fine powder processes pervade the chemical, pharmaceutical, agricultural and mining industries among others. The author in this book analyzes the mechanism by which interparticle adhesive forces are reduced by means of surface additives. Different techniques have been developed in the last years to assist fluidization by helping the gas flow to mobilize and break cohesive aggregates, which help to homogenize fluidization. As reviewed in this book, the use of these techniques may have a relevant impact on novel processes based on fluidized beds of fine powder and with relevant applications on leading edge technologies such as Atomic Layer Deposition on nanoparticles and CO<sub>2</sub> capture by gas-fluidized beds of adsorbent powders. The study of fluidized beds has a marked interdisciplinary character. This book is thus intended for academic and industrial researchers in applied physics, mechanical, chemical, and environmental engineering, who are interested in the special characteristics of fine powders.

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**Introduction. The Classical Geldarts Diagram and the New Type of** Illustrates the state of the art on cohesive versus dynamical aggregation in fluidized beds Provides a based on fluidized beds of fine powder and with relevant applications on leading edge technologies such as Atomic . Series Title: Particle Technology Series Series Volume: 18 Copyright: 2013 Publisher: Springer **Dynamic Aggregation of Fine Particles in Gas-Fluidized - Springer** Title,

Fluidization of fine powders : cohesive versus dynamical aggregation Series, (Particle technology series 18) helping the gas flow to mobilize and break cohesive aggregates, which help to homogenize fluidization. **[PDF] Fluidization of Fine Powders: Cohesive versus Dynamical** Fine powder cohesiveness leads to poor. Particle Technology Series Illustrates the state of the art on cohesive versus dynamical aggregation in fluidized **Fluidization Of Fine Powders Cohesive Versus Dynamical** Volume 18 of the series Particle Technology Series pp 99-120 An efficient method to assist fluidization of fine cohesive powders is the addition of This allows dynamical aggregation of the particles in fluidization, which may lead to a .. of Fine Powders Book Subtitle: Cohesive versus Dynamical Aggregation Pages: pp Fluidization of Fine Powders. Volume 18 of the series Particle Technology Series pp 47-54. Dynamic Aggregation of Fine Particles in Gas-Fluidized Beds . Fluidization of Fine Powders Book Subtitle: Cohesive versus Dynamical Aggregation **Fluidization of Nanopowders - Springer** Aggregation Particle Technology Series is available on print and digital edition. Powders Cohesive Versus Dynamical Aggregation Particle Technology Series fluidization of fine powders cohesive versus dynamical aggregation 18 particle **Fluidization of Fine Powders - Springer** (PDF, 4679 KB). Book. Particle Technology Series. Volume 18 2013. Fluidization of Fine Powders. Cohesive versus Dynamical Aggregation Chapter. Pages 29-39. The Fluidlike Behavior of Fine and Ultrafine Powders Fluidized by Gas. **The effects of particle and gas properties on the fluidization of** Volume 18 of the series Particle Technology Series pp 29-39 are exceedingly large compared to particle weight, which causes cohesive aggregation. . 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Loading Unsubscribe from **Fluidization of Fine Powders - Cohesive versus Jose - Springer** Powder Technology For fine particles with a diameter  $d_p$  Fluidlike Fluidization as Affected by External Fields - Springer Volume 18 of the series Particle Technology Series pp 75-83 and mesoscopic behavior of gas-fluidized beds ruled by dynamic aggregation. Book Title: Fluidization of Fine Powders Book Subtitle: Cohesive versus Dynamical Aggregation Fluidization of Fine Powders: Cohesive versus Dynamical Aggregation - Google Books Result Volume 18 of the series Particle Technology Series pp 41-46 of fine powders which can be fluidized by a gas in a fluid-like regime and in the absence . Fluidization of Fine Powders Book Subtitle: Cohesive versus Dynamical Aggregation Fluidization of Fine Powders: Cohesive versus Dynamical - eBay Fluidization of Fine Powders Cohesive versus Dynamical Aggregation Particle Technology Series. Paige Hughes. Loading Unsubscribe from Fluidization of Fine Powders Cohesive versus Dynamical - YouTube In case of DLA or BA, every collision results in particles or clusters of fluidized NP agglomerates, based on earlier work on fine powders by They show using TEM that on the smallest scale silica NPs form 3D . in gas fluidization of cohesive particles (see also the section Modeling of equation M18. The Use of Additives to Control Powder Flow. Mechanical Properties Volume 18 of the series Particle Technology Series pp 65-73 exhibit a nonbubbling fluid-like behavior as seen for conditioned fine powders. be formed by a dynamic aggregation of simple-aggregates pre-existing to fluidization. . of Fine Powders Book Subtitle: Cohesive versus Dynamical Aggregation Pages: pp 65- Fluidization of Fine Powders - Cohesive versus Jose - Springer University of Technology J.R. van Ommen, Delft University of Technology N.G. Deen, Eindhoven Symposium Series, (2013). [http://fluidization\\_xiv/129](http://fluidization_xiv/129) As opposed to cohesive aggregation, fine particles in these special class For slightly cohesive powders (Bog ? 1), gas-fluidized beds exhibit a uni-. Fluidization of Fine Powders: Cohesive versus Dynamic Aggregation This book covers the rich phenomenology exhibited by fine powders when they are fluidized by a gas flow. Illustrates the state of the art on cohesive versus dynamical aggregation in fluidized beds Provides a clear . Series Title: Particle Technology Series Series Volume: 18 Copyright: 2013 Publisher: Springer Fluidization of Fine Powders: Cohesive versus Dynamical Fluidization of Fine Powders. Volume 18 of the series Particle Technology Series pp 47-54. Dynamic Aggregation of Fine Particles in Gas-Fluidized Beds . Fluidization of Fine Powders Book Subtitle: Cohesive versus Dynamical Aggregation Magnetic Stabilization of Fluidized Beds of Magnetizable Particles Fluidization of Fine Powders: Cohesive versus Dynamical Aggregation by Jose Series Title. Particle Technology Series. Series Part/Volume Number. 18 Dynamic Aggregation of Fine Particles in Gas-Fluidized Beds Fluidization of Fine Powders : Cohesive Versus Dynamical Aggregation 18 by. .

Series. Particle Technology. Format. Hardcover. Publication Date. 2012-10-12. Fluidization of nanopowders: a review - NCBI - NIH Fluidization of Fine Powders: Cohesive versus Dynamical Aggregation: 18 (Particle Technology Series) eBook: Jose Manuel Valverde Millan: : On the Question of Fluid-Like Fluidization Stability - Springer Volume 18 of the series Particle Technology Series pp 23-28 by gas-fluidized beds of slightly cohesive powders stably fluidized (Geldart A), most beds of An insight is given into the gas-fluidization behavior of fine conditioned powders, . of Fine Powders Book Subtitle: Cohesive versus Dynamical Aggregation Pages Effect of Gas Viscosity on the Fluidization Behavior of Fine Powders Volume 18 of the series Particle Technology Series pp 85-97 Fluidlike fluidization of fine powders is directly related to the formation of dynamic aggregates. electric field if particles are electrostatically charged or in oscillatory vibration, the cohesive aggregation and turn the heterogeneous fluidization behavior into a Fluidization of Fine Powders - Cohesive versus Jose - Springer Cohesive versus Dynamical Aggregation Jose Manuel Valverde Millan. Particle. Technology. Series. Volume. 18. Many materials exist in the form of a disperse The Fluidlike Behavior of Fine and Ultrafine Powders Fluidized by Gas were described as well as the dynamic behavior of agglomerates during fluidization. The effect of pressure on the fluidization behavior of fine particles has also been . aggregates achieve sizes which for highly cohesive particles may be .. 18. Geldart, Types of Gas Fluidization. Powder Technology, 1973. 7(5): p.