

## **554e Undesirable Phenomena Encountered during Food Powder Handling, Processing, and Storage**

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Undesirable phenomena such as attrition, segregation, caking, and dust explosion are commonly encountered in food powder manufacturing operations including size reduction, size enlargement, powder encapsulation, particle classification, conveying, mixing, and bulk storage. These phenomena signify a costly hurdle to the food plant production economy not only due to the downtimes created during food powder discharge or packaging, loss of product, quality reduction, but also due to potential hazards that might involve the safety of the personnel. This presentation will review the state of the art on each phenomenon by presenting general and new concepts, physical mechanisms and kinetics, evaluation techniques and indices, and preventive measures and equipment. An update on the latest research work published in the area will also be shown.