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A basic guide to particle characterization

20 June 2012

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The physical properties of particulate materials can influence a wide range of material behaviors including, for example, reaction and dissolution rates, how easily ingredients flow and mix, or compressibility and abrasivity. From a manufacturing and development perspective, some of the most important physical properties to measure are:

- particle size
- particle shape
- surface properties
- mechanical properties
- charge properties
- microstructure

Depending upon the material of interest, some or all of these could be important and they may even be interrelated: e.g. surface area and particle size.

The aim of this particle characterization guide is to provide a basic grounding in the main particle characterization techniques currently in use within industry and academia. It assumes no prior knowledge of particle characterization theory or instrumentation and is ideal for those new to particle characterization, or those wishing to reinforce their knowledge in the field. The guide covers introductory basics, particle sizing theory and [particle characterization instrumentation](#), as well as a quick reference guide to help you decide which techniques might be most appropriate for your particle characterization needs.

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