

# Particle size analysis.

Enhancing efficacy and manufacturability through advanced particle size analysis.

## Executive Summary

This white paper outlines the crucial role of particle size analysis in pharmaceutical development, an area where Magle Chemoswed excels. Enhanced control over particle size distributions enables improvements in safety, efficacy, and manufacturability of drug products, establishing us as a leader in pharmaceutical innovation.

## Introduction

Particle size and distribution are fundamental parameters in pharmaceutical development, influencing key attributes such as dissolution rates, bioavailability, and drug stability. At Magle Chemoswed, we utilise state-of-the-art technologies to master particle size analysis, ensuring exceptional product quality.

## Importance of Particle Size Analysis

- **Bioavailability:** Our advanced techniques ensure smaller particles increase the surface area, enhancing the drug's solubility and bioavailability.
- **Stability:** We maintain uniform particle size to significantly enhance the stability of formulations, reducing issues like sedimentation and aggregation.
- **Dosage Uniformity:** We guarantee each dosage form contains a consistent and uniform distribution of the active ingredient.
- **Processability:** We optimise particle size to improve the flow and compaction of pharmaceutical powders, essential for efficient tablet manufacturing and packaging.

## Advanced Particle Size Analysis Techniques at Magle Chemoswed

- **Laser Diffraction:** We provide rapid and reliable measurement of particle size distributions, suitable for a wide range of materials.
- **Dynamic Light Scattering (DLS):** Our techniques are ideal for characterising nano and submicron particles, commonly used in the development of nanomedicines.
- **Image Analysis:** We offer detailed insight into particle morphology, supporting robust formulation development.
- **Sieve Analysis:** Effective for larger particle sizes, our method is commonly used in the quality control of granules and coarse powders.



## Conclusion

Magle Chemoswed's advanced particle size analysis technologies are crucial for pharmaceutical companies aiming to improve their product quality and efficacy, ensuring robust manufacturing processes and regulatory compliance.

