

## Particle Sizing and Distribution Analysis

Image Analysis Report 454

### Sample Description

Pharmaceutical powder in dispersing liquid.

### Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analyzer to evaluate size and shape of 1,568 particles within 16 fields, and to separate agglomerated particles prior to object measurement.

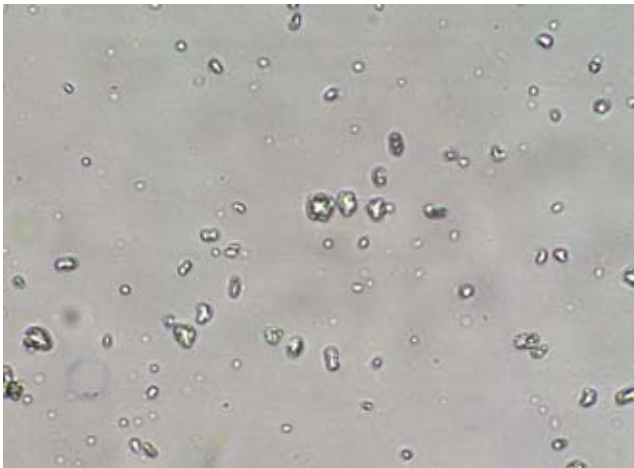


Figure 1: Original image at 500x.

### Procedure

Green color (bitplane 3) was assigned to each particle using gray threshold.

Rough objects were transferred to pink (bitplane 4), and a binary function was applied to separate touching objects.

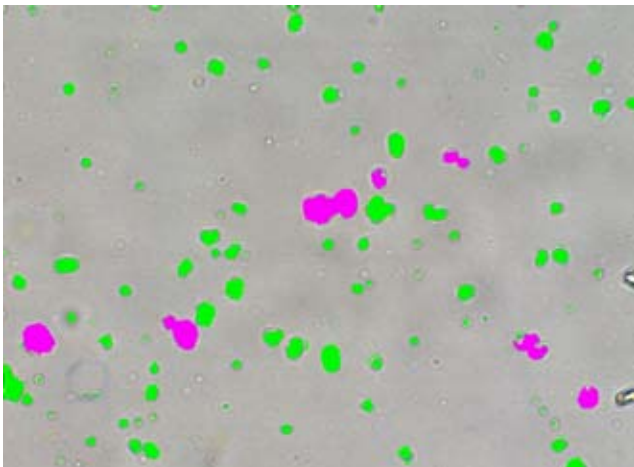


Figure 2: Image analysis in process.

### Procedure (continued)

Area, length, width, and aspect ratio measurements were performed on the green bitplane.

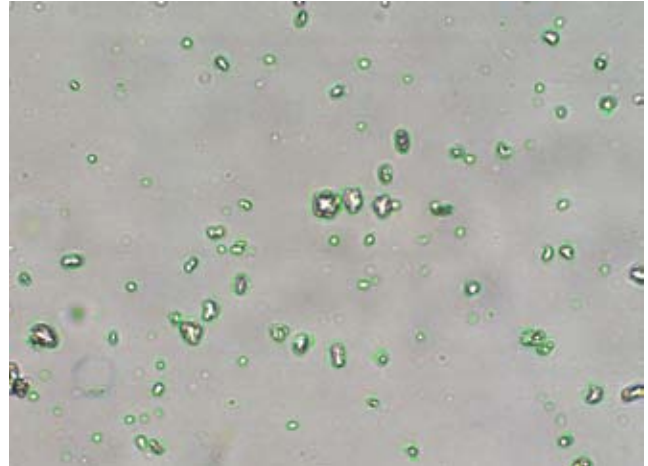


Figure 3: Outline view of separated particles.

### Results Summary

<b>Particle Count</b>	1,568 (16 fields)
	<b>Length (um)</b>
<b>Minimum</b>	1.0
<b>Maximum</b>	21.1
<b>Mean</b>	3.87
<b>Std Deviation</b>	2.80

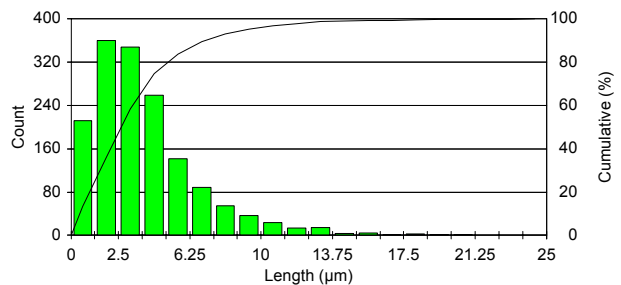


Figure 4: Graph showing length distribution.

### Equipment

<b>Image Analysis System:</b>	Clemex Vision PE
<b>Camera:</b>	Sony 950P
<b>Microscope:</b>	Nikon Optiphot 100
<b>Objective:</b>	Nikon 50x (Mag.: 500x)
<b>Motorized Stage:</b>	Marzhauser 100 mm x 75 mm