



Linkoptik Application Note #7

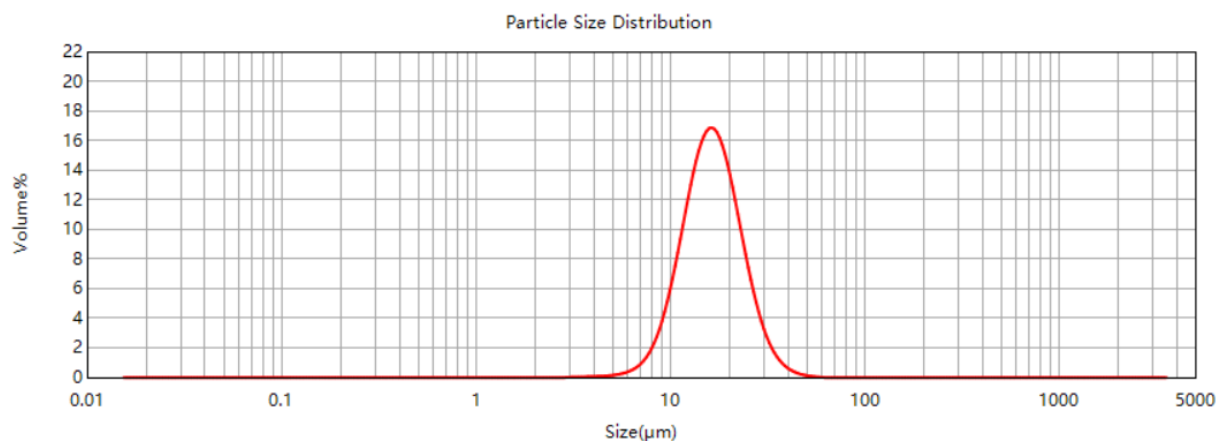
Silicon Carbide (SiC) – LT3600 Plus and Hydrolink Wet Sample Dispersion Unit

Silicon carbide, commonly referred to by its chemical formula as SiC, is an extremely hard compound of silicon and carbon. Since the late 19th century, silicon carbide has been produced for use as an abrasive in applications such as sandpapers, grinding wheels, and cutting tools. In more recent years, it has found applications in high-endurance materials, wear-resistant parts for pumps, automobiles and rocket engines, as well as semiconducting substrates for light-emitting diodes.¹ Particle size and particle size distribution are key parameters for quality control in the manufacturing and marketing processes.

A sample of silicon carbide (SiC) was analyzed with the LT3600 Plus and HydroLink Wet Sample Dispersion Unit. The results were then compared to the values provided by the supplier.

Analysis conditions:

Particle RI	Absorption	Dispersant	Dispersant RI	Obscuration	Pump	Ultrasound
2.6	0.00	H ₂ O + 1% NP40	1.33	7-13%	1700 RPM	30s @5%



Measurement results:

	D10	D50	D90
Expected Results	10.38 +/- .52 μm	16.17 +/- .48 μm	24.98 +/- 1.25 μm
LT2200 Results	10.34 μm	16.14 μm	25.18 μm

The LT3600 Plus delivered results well within the expected measurement range for the Silicon Carbide sample.

¹Encyclopedia Britannica. <https://www.britannica.com/science/silicon-carbide>
Wikipedia, https://en.wikipedia.org/wiki/Silicon_carbide