



**SICONIDE®**  
SILICON NITRIDE POWDER

## Chemical Properties

Purity (typical analysis)

Element	Weight %			
	SicoNide® S		SicoNide® P	
	Typical	Max/min	Typical	Max/min
Si <sub>3</sub> N <sub>4</sub>	98.3%		98.6%	
Fe	0.25	0.19-0.30	0.04	0.03-0.06
Al	0.10	0.06-0.12	0.05	0.03-0.08
Ca	0.02	0.01-0.05	0.01	<0.02
Halides	<0.002	<0.002	<0.002	<0.002
C	0.2	<0.5	0.2	<0.5
O	0.7-1.5	0.7-1.5	0.7-1.5	0.7-1.5
Si, free	0.1	<0.2	0.1	<0.2
α-Si <sub>3</sub> N <sub>4</sub>	93	90-95	93	90-95
BET (m <sup>2</sup> /g)	Low (L) 6-8	6-12	Low (L) 6-8	6-12
	Medium (M) 8-10		Medium (M) 8-10	
	High (H) >10		High (H) >10	
D <sub>50</sub> (μm)	0.9-1.3	0.9-1.3	0.9-1.3	0.9-1.3

## Physical Properties

The physical parameters

- particle size distribution
  - specific surface area
  - particle morphology
- are determined by control of the nitridation variables and post-synthesis powder processing e.g. milling, classification and other treatments. Standard B.E.T. specific surface areas of the micronized SICONIDE® are at the 6 m<sup>2</sup>/g and 12 m<sup>2</sup>/g levels.

