Applied Quantum Materials Inc.

Silicon Nanoparticles

AQM SiNP

Crystalline Silicon Nanoparticles

CAS No: 7440-21-3



Description

Unagglomerated and nearly mono-dispersed, silicon nanoparticles have been prepared via a cost-effective and scalable method. SiNPs have either hydroxyl or hydride terminated surface and are readily dispersible in a wide variety of solvents including water[1] and toluene. These particles have promising and diverse applications ranging from biology to materials for lithium-ion batteries. SiNPs can be used as is or with surfaces modified and conjugated with a variety of different functional groups to increase their compatibility with their environment.

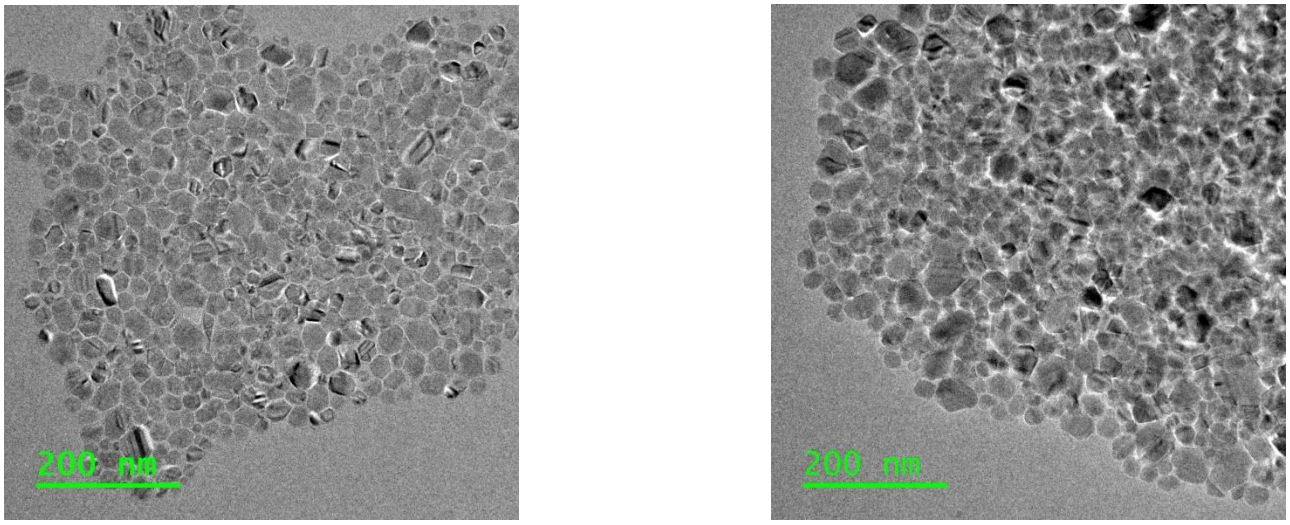


Figure 1: Brightfield TEM images

[1] Hydride terminated particles can oxidize under aqueous or ambient/not inert conditions.

Properties

Related Categories	Silicon Nanoparticles
Forms	Brown powder
Particle sizes	30 ± 15 nm, 41 ± 10 nm
Density	2.3 g/cm^3
Purity	>99.99%
Photoluminescence	N/A
Production scalability	Fully scalable to kg/batch

Characterization Data

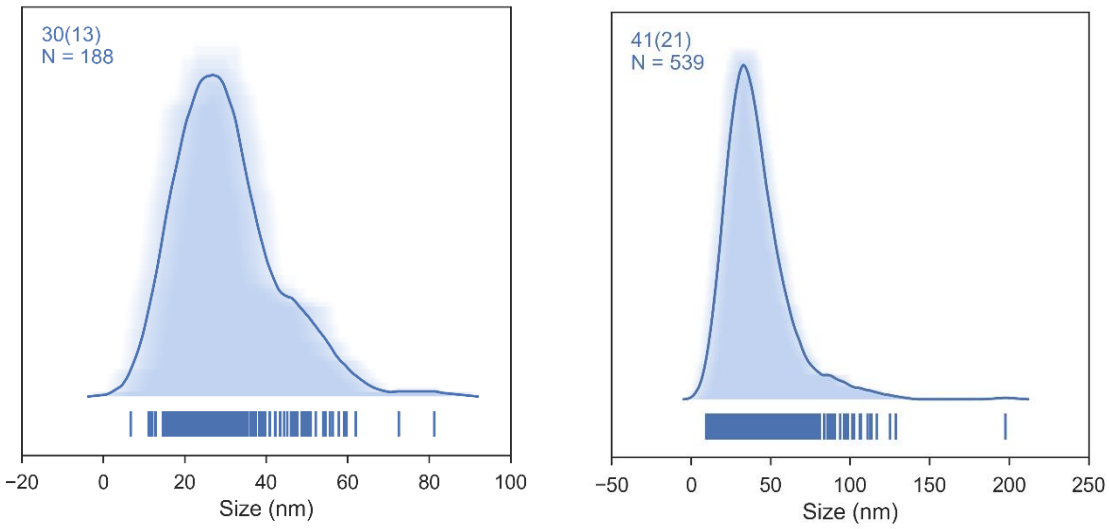


Figure 2: Sample size distribution histogram

Packaging

1-10 g in glass vials or ampules stored under either air or nitrogen (bulk can be supplied upon request).