



## Silicon Graphene Carbon Nanotubes Mixed, Water Dispersion PRODUCT DATA SHEET

### Silicon Graphene Carbon Nanotubes Mixed, Water Dispersion

#### Description

Graphene has a two-dimensional structure of a carbonaceous new material, which has excellent electrical, thermal and mechanical properties. Our graphene with a very large surface area 500 ~ 1200 m<sup>2</sup>/g; It is very difficult to be dispersed in a polar or non-polar solvents. Based on our lab experimental results from numerous dispersants screened out, we added one best suitable special dispersant and used a high capacity ultrasonic equipment to disperse our graphene product. After testing, the liquid is a very uniform and very stable graphene water dispersion product. Silicon Graphene Carbon Nanotubes Mixed, Water Dispersion can effectively improve the electrical conductivity and mechanical properties, and enhance tensile strength, hardness and elastic modulus characteristics. Abvigen offers high quality silicon graphene carbon nanotubes mixed, water dispersion. The product has high repeatability between batches, which can meet the needs of various customers for personalized materials such as research and development, testing and production.

For custom sizes, formulations or bulk quantities please contact our customer service department.

Website: [www.abvigen.com](http://www.abvigen.com) Phone: +1 929-202-3014 Email: [info@abvigenus.com](mailto:info@abvigenus.com)

#### Characteristics

**Type:** Silicon Graphene Carbon Nanotubes Mixed, Water Dispersion

**Size:** 120 mL

**Concentration:** 6wt%

#### 30wt% Silicon (Si) Nanopowder Parameters:

**Silicon Nanopowder / Nanoparticles (Si, metal basis)**

**Silicon nanopowder / nanoparticles true density:** 2.33 g/cm<sup>3</sup>

**Silicon nanopowder / nanoparticles purity:** 98.5%

**Silicon nanopowder / nanoparticles APS:** 50 nm



**Silicon nanopowder / nanoparticles SSA:** 80 m<sup>2</sup>/g

**Silicon nanopowder / nanoparticles color:** Yellow

**Silicon nanopowder / nanoparticles morphology:** Near spherical

**30wt% Graphene Nanopowder Parameters:**

**Graphene purity:** >99wt%

**Graphene thickness:** <5 nm

**Graphene diameter:** 1 μm - 12 μm

**Graphene specific surface area:** 500 - 1200 m<sup>2</sup>/g

**Graphene color:** Black

**Conductivity:** 1000-1500 S/M

**The product COA:** C=99.6%, O<0.4%

**40wt% Carbon Nanotubes Parameters:**

**Multi Walled Carbon Nanotubes (MWNTs, MWCNTs)**

**Purity:** > 97% (carbon nanotubes)

**Average outside diameter:** >55 nm

**Average inside diameter:** 8 nm

**Length:** 10-30 μm (TEM)

**SSA:** > 60 m<sup>2</sup>/g (BET)

**Color:** Black

**Ash:** <1.5 wt%

**Electrical conductivity:** >100 s/cm

**Tap density:** 0.12 g/cm<sup>3</sup>

**True density:** ~2.1 g/cm<sup>3</sup>

**Ratio:** CNTs : Si : Graphene = 4:3:3

**Advantages**

Effectively improve the electrical conductivity and mechanical properties

Effectively enhance tensile strength, hardness and elastic modulus characteristics



## **Applications**

Screen displays, electric motors, sensing devices, aerospace and automotive devices, body armor and tear-resistant cloth fibers and textiles products, sports equipments. Serve as a conductive metallic or semiconductor, conductive films in coatings, plastics, certain bioscience applications, solar and electronic applications, additives in polymers, catalysts, electron field emitters for cathode ray lighting elements, flat panel display, gas-discharge tubes in telecom networks, electromagnetic-wave absorption and shielding, energy conversion; lithium-battery anodes, hydrogen storage, nanotube composites (by filling or coating), nanoprobe for STM, AFM, and EFM tips, nanolithography; nanoelectrodes, drug delivery, sensors, reinforcements in composites, supercapacitor.

## **Ordering Information**

Website: [www.abvigen.com](http://www.abvigen.com)

Phone: +1 929-202-3014

Email: [info@abvigenus.com](mailto:info@abvigenus.com)