

**NANOGRAPHENEX****NANOGRAPHENEX NANOTECHNOLOGY****TECHNICAL DATA SHEET****PRODUCT INFORMATION**

Product Group	Nanoparticles
Trade Name	Silver Nanopowder Coated with ~0.25wt% PVP
CAS Number	7440-22-4
Product Number	
Formula	Ag

**PRODUCT PROPERTIES**

<b>Ag w/~0.25% PVP</b>	<b>Value</b>	<b>Units</b>
Average Particle Size	28-48	nm
Purity	99.995	%
Appearance	Black Powder	
True Density	10,6	g/cm <sup>3</sup>
Shape	Spherical	
Crystal Structure	Cubic	
SSA	7.0-10.0	m <sup>2</sup> /g

**Element Analysis**

Ag	Cu	Pb	Fe	Sb	Bi
99.998%	9ppm	2ppm	4ppm	1ppm	2.5ppm

**APPLICATION**

Silver nanoparticles are well known for their antimicrobial properties. It can be used as an antibacterial and disinfectant, even in some cases it finds uses in AIDS drugs. Addition of very small amounts of silver nanopowder (~0,1%) into different inorganic matrices makes those materials effective for killing pathogenic microorganisms like Escherichia Coli, Staphylococcus Aureus, etc. This disinfectant properties are insensitive to different pH or oxidation conditions and can be considered durable. In some cases it finds uses as a chemical catalyst as well. They can significantly improve the speed and efficiency of various chemical reactions such as ethylene oxidation. Another important area that silver nanoparticles find usage is the biological



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studies such as diagnostic works on genes. As well as medical-pharmaceutical and scientific applications, silver nanoparticles can be used in household items as well. Manufacturers began to use silver nanopowders in products such as washing machines, refrigerators, air conditioners, toys, clothing, food containers, detergents etc. Construction materials and buildings can contain antibacterial, corrosion resistant properties by applying silver nanoparticle added paints on them.

**SEM IMAGE OF PRODUCT**

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