

Technical Data Sheet

Ag Nanoparticles



Description

Silver nanoparticles are black to gray metallic nanocrystalline powders or colloidal suspensions with exceptional antimicrobial, electrical, and optical properties. At the nanoscale, silver exhibits strong surface plasmon resonance (SPR), high electrical conductivity, and superior antibacterial activity, making it valuable in healthcare, electronics, catalysis, and advanced material applications.

Properties

- Appearance: Black to gray metallic powder
- Average Particle Size: 20-80 nm
- Purity: >99%
- Density: 10.5 g/cm³
- Morphology: Spherical
- Crystal Structure: Face-Centered Cubic (FCC)
- Electrical Conductivity: Very high
- Packaging: 1kg / 5kg / 25kg



Applications

- Biomedical & Healthcare: Antibacterial coatings, wound dressings, drug delivery, medical devices
- Electronics: Conductive inks, flexible electronics, printed circuits
- Catalysis: Oxidation/reduction reactions, pollutant degradation
- Textiles & Polymers: Antimicrobial fabrics, protective clothing, antimicrobial plastics
- Sensors & Optics: Plasmonic sensors, biosensors, optical imaging, photothermal therapy
- Water Treatment: Antibacterial and antiviral filtration systems

Features

- Exceptional antimicrobial and antifungal activity
- Strong surface plasmon resonance for optical and sensing applications
- High electrical and thermal conductivity
- Effective catalyst at nanoscale surface area
- Biocompatible in controlled medical and research applications
- Versatile additive for coatings, textiles, and polymers

Notes

- The product should be stored in the original container securely under cool and dry conditions away from direct sunlight, heat and contamination.
- Shelf life at proper storage is about 24 months from the production date, but it is recommended to consume the product within 12 months.

