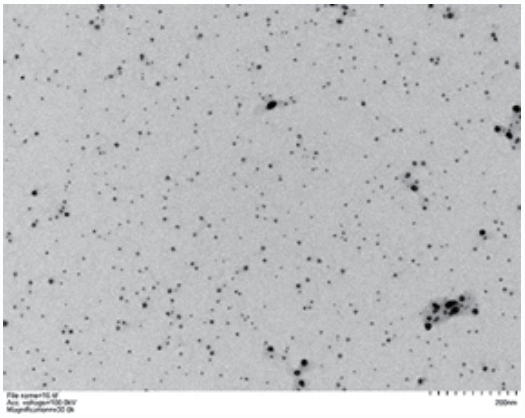
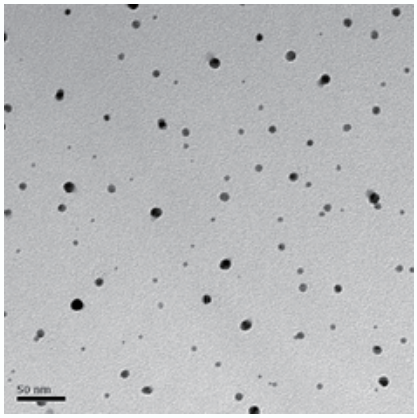
Nano Ag Conductive Ink

LIWEI
Nano Tech Co., Ltd.

Description

The practice of using an inkjet printer or roll-to-roll wet coating equipment to apply Ag conductive ink to substrates before drying and low-temperature sintering the substrates for the preparation of conductive patterns can replace the complex and material-consuming process of applying photoresist, exposing, developing, and etching.





Features of LIWEI's Ag conductive ink:

- Consists of Ag nanoparticles, surfactants, and polar or non-polar solvents
- Ag nanoparticles measure between 5 and 100 nm in size
- Applicable to substrates like PET and glass

Applications :

- Ink-Jet printing
- Radio Frequency Identification (RFID)
- Automotive occupancy detection
- Glucose sensor

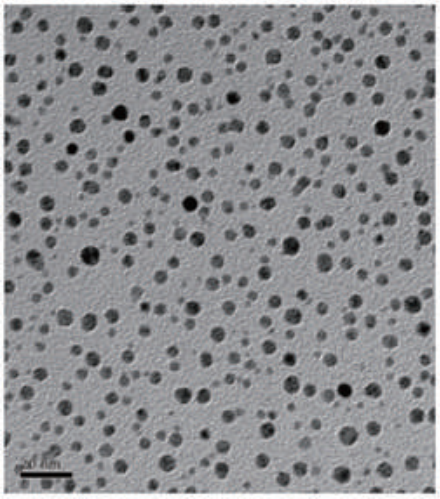
Test	Specification
Color	Depends on process parameter
Form	Liquid / Colloid
Morphology	Near-spherical
Crystal Structure	Depends on process parameter
APS	≤ 30 nm
Concentration	≤ 40 wt%
Solvent	Alcohols / Other solvents

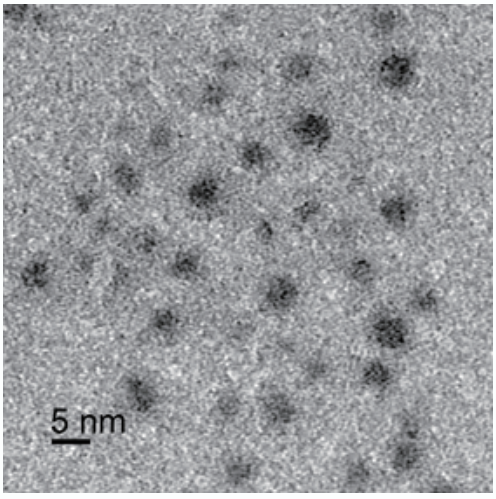
Ag Nanoparticle Water Dispersion

LIWEI
Nano Tech Co., Ltd.

Features :

- Contain size-consistent, evenly distributed Ag nanoparticles in pure water
- Contain highly-pure, premium-quality Ag nanoparticles
- A natural antimicrobial product without synthetic elements
- Can eliminate 650 types of pathogens in a physical manner to prevent antibiotic resistance





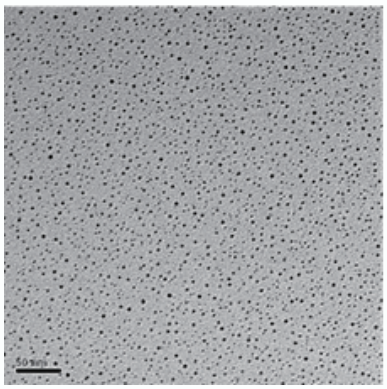
Test	Specification
Color	Transparent
Form	Dispersion
Morphology	Spherical
Crystal Structure	XRD amorphous
APS	≤ 10 nm
Concentration	≤ 10 ppm
Purity	99.9%

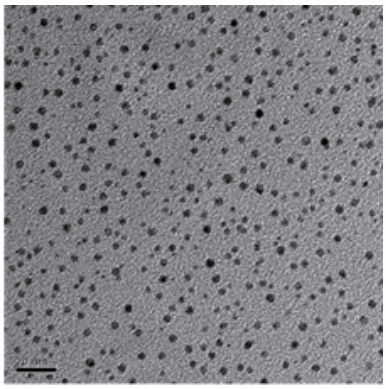
Ag Nano Powders

LIWEI
Nano Tech Co., Ltd.

Description

Ag is a ductile and malleable metal that is chemically stable and has many excellent properties, including thermal and electrical conductivity. Ag reflects light well. When converted into nano-sized materials, Ag has better activity and higher specific surface area, which significantly improve its functions and even give rise to new functions for new applications. For example, Ag nanoparticles have an excellent antimicrobial ability, so they can be extensively used in daily life as a natural antimicrobial agent. Additionally, with exceptional electrical conductivity, Ag nanoparticles can be used to make conductive paste or ink for applications in optoelectronic semiconductor devices or to replace existing materials for better functionality.





Applications :

- Electronics: Conductive patterns of PCB
- Coatings: Infrared ray-blocking stealth coatings
- Physical chemistry: Catalysts
- Biomedicine: used for antimicrobial purposes
- Energy: Conductive materials for photovoltaic cells

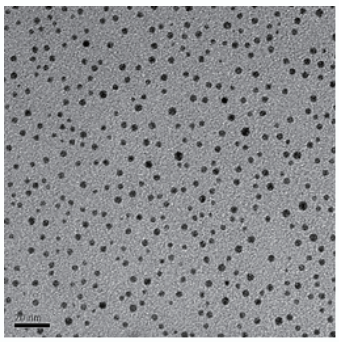
Test	Specification
Color	Silver Gray
Form	Powder
Morphology	Spherical
Crystal Structure	XRD amorphous
APS (Φ)	< 10 nm (±15%Φ)
Purity (Metal Basis)	99.9%

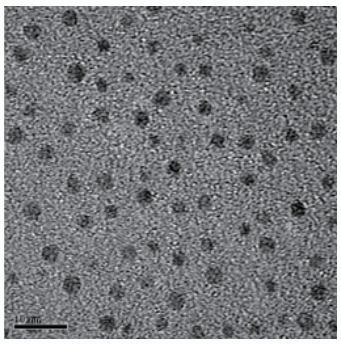
Cu Nano Powders

LIWEI
Nano Tech Co., Ltd.

Description

Cu is a soft reddish-brown metal with great ductility and malleability. An abundant element on the Earth, copper has a face-centered cubic (FCC) structure, and it can react with oxygen to gradually form Cu oxides on the surface. Cu is often used in the production of alloys and as a major construction material for its excellent mechanical properties. At room temperature, the electrical (59.6×106 S/m) and thermal conductivity (401 W/mK) of Cu is second only to that of Ag. Due to its relatively low cost, copper is a common material in electronic components, cables, and electrical apparatuses. Cu nano powder can even be used in the end materials of cutting-edge microelectronic materials, lubricants, machinery, catalysts, etc.





Applications :

- Electro-ceramics: End materials of multilayer ceramics
- Physical chemistry: Catalysts for the preparation of alcohols
- Coatings: Conductive coatings & pastes; paints; construction materials
- Machinery: Hard alloys; tools & crafts; lubricants
- Pigments: Additives of chemical dyes

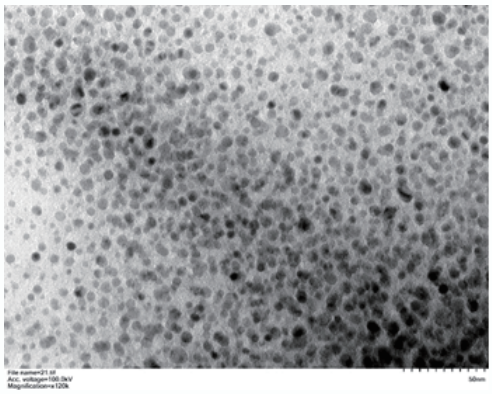
Test	Specification
Color	Reddish Brown
Form	Powder
Morphology	Spherical
Crystal Structure	XRD amorphous
APS (Φ)	<10 nm (±15%Φ)
Purity (Metal Basis)	99.9%

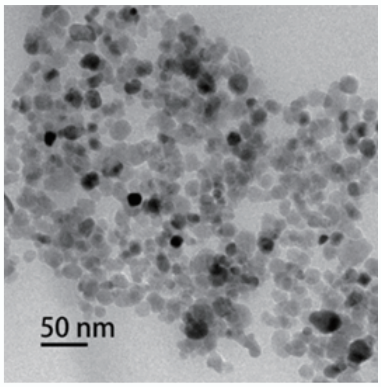
Ni Nano Powders

LIWEI Nano Tech Co., Ltd.

Description

Ni is a transition element. As a bulk material, Ni is a silver-white metal with sheen whose density is 8.9 g/cm2, melting point is 1450 ℃, and crystal structure is mostly face centered cubic (FCC) lattices. Ni is ferromagnetic at room temperature and antiferromagnetic at 355℃ or over. When converted into nano-sized materials, Ni has a greater activity, which leads to novel functions. These functions are dependent on particle sizes and show significantly different performances at different size ranges, allowing flexibility in applications. In addition to ferromagnetism, nano-sized Ni also draws attention to its electrical conductivity and applications in catalysis.





Applications :

- Energy: Electrodes of fuel cells
- Physical chemistry: Catalysts
- Electronics and semiconductors: Conductive materials
- Biomedicine: Magnetic materials

Test	Specification
Color	Grayish Black
Form	Powder
Morphology	Near-spherical
Crystal Structure	XRD amorphous
APS (Φ)	<10 nm (±15%Φ)
SSA	130-150 m²/g
Purity (Metal Basis)	99.9%

Nano Cu Conductive Ink

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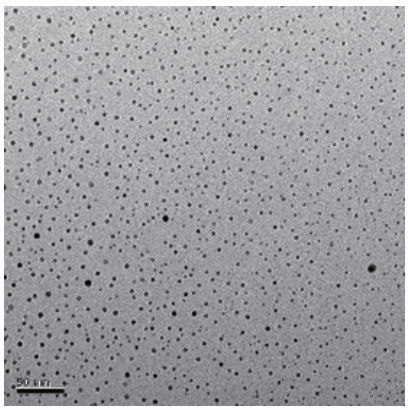
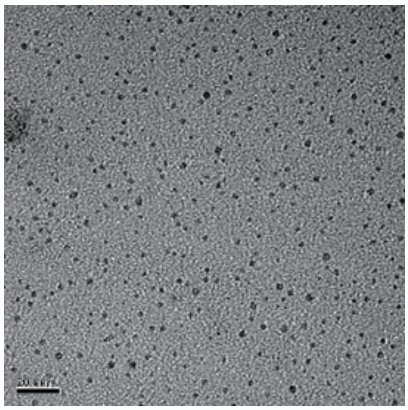
Description

The practice of using an inkjet printer or roll-to-roll wet coating equipment to apply Cu conductive ink to substrates before drying and low-temperature sintering the substrates for the preparation of conductive patterns can replace the complex and material-consuming process of applying photoresist, exposing, developing, and etching.





Features of LIWEI's Cu conductive ink:

- Consists of Cu nanoparticles, surfactants, and polar or non-polar solvents
- Cu nanoparticles measure between 5 and 100 nm in size
- Applicable to substrates like flexible PET, PI, glass, etc.

Applications :

- Ink-Jet printing
- Radio Frequency Identification (RFID)
- Membrane tough switch, MTS

Test	Specification
Color	Depends on process parameter
Form	Liquid / Colloid
Morphology	Near-spherical
Crystal Structure	Depends on process parameter
APS	≤ 30 nm
Concentration	≤ 20 wt%
Solvent	Alcohols / Other solvents