

## Copper Nanoparticles CNP101

### Description:

Copper nanoparticles (CuNPs) consists of particles that each copper atom has lost one electron so the ions vibrate and free electrons move between them and results in best electrical and thermal properties of Cu. Copper is a naturally hygienic metal that slows down the growth of bacteria and acts as an anti-biotic, anti-microbial, and anti-fungal agent. Nano copper as diet supplements are fully absorbed and helps the body utilize iron and keeps the immune system healthy.


		
		7440-50-8
		CNP101
Mo		Cu
Molec		63.55
		Powder
		Brown
		Spherical
Crystal structure		FCC
Size range (nm)		20-40
Total impurity (%)	<1	
Oxide density (g/cm <sup>3</sup> )	N/A	
Melting point (°C)	1084.62	
Boiling point (°C)	2927	
Density (g/cm <sup>3</sup> )	8.9	
Solubility	Insoluble	



Image of copper nanopowder (CNP101)

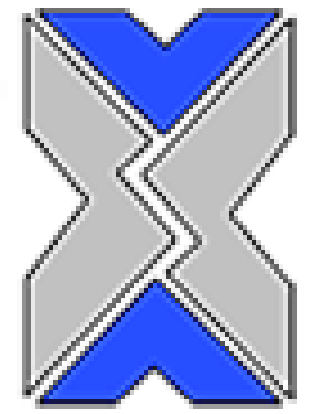
**Note:** product specifications are subject to amendment and may change over time.

### Applications (but not limited to the following):

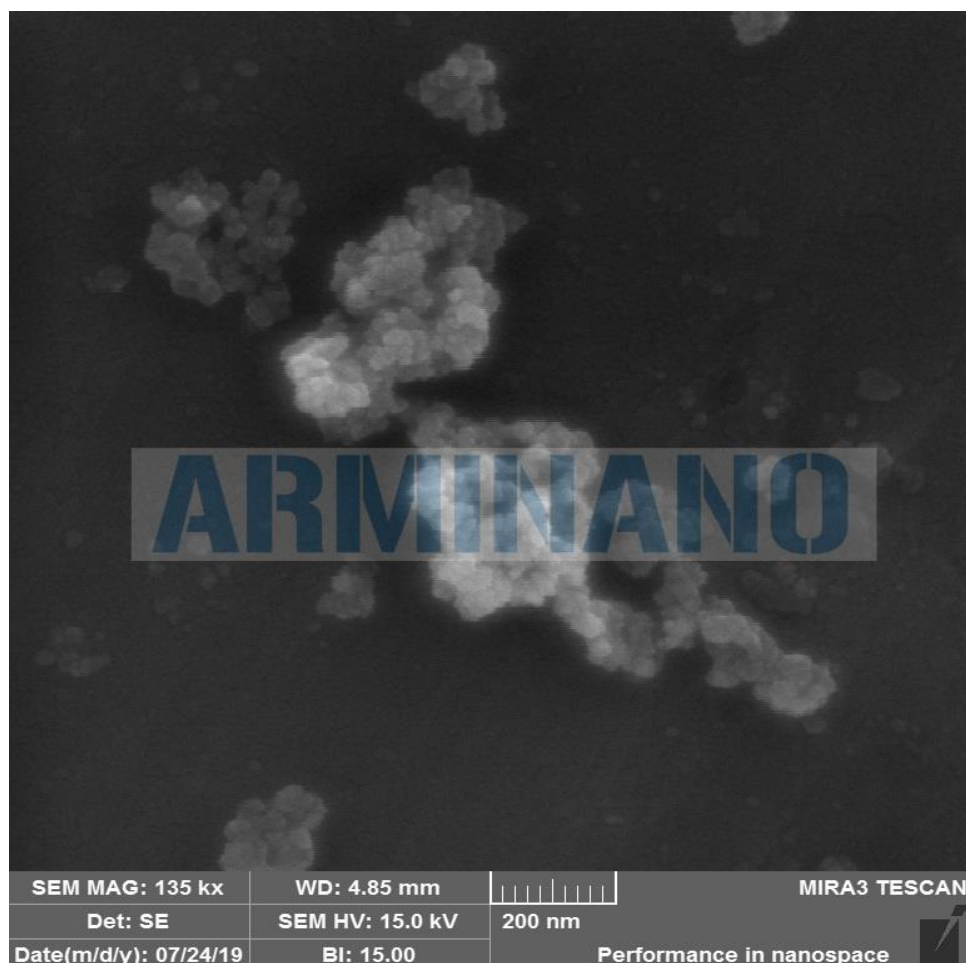
Catalysts, conductive inks and coatings, sintering additives, medicine and anti-bacteria, lubricant additives, heat transfer materials, Integrated circuits, batteries, solar cells, capacitors, radio frequency shielding

### Safety:

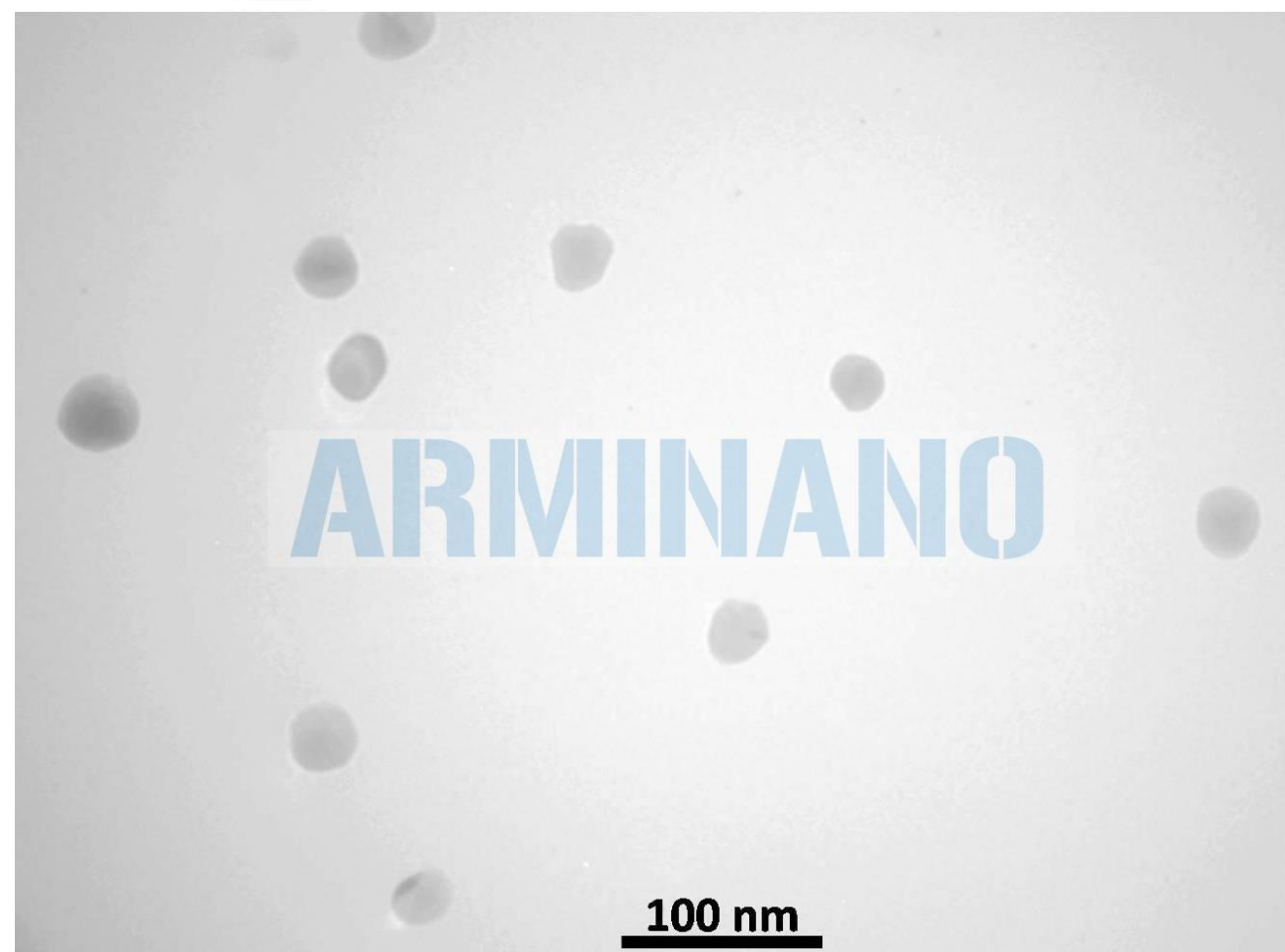
Avoid breathing dust.  
Always use protective gloves and safety glasses.  
Wash with soap and water after exposure.  
Do not expose to extreme heat or flame.  
Refer to MSDS prior to handling this material.



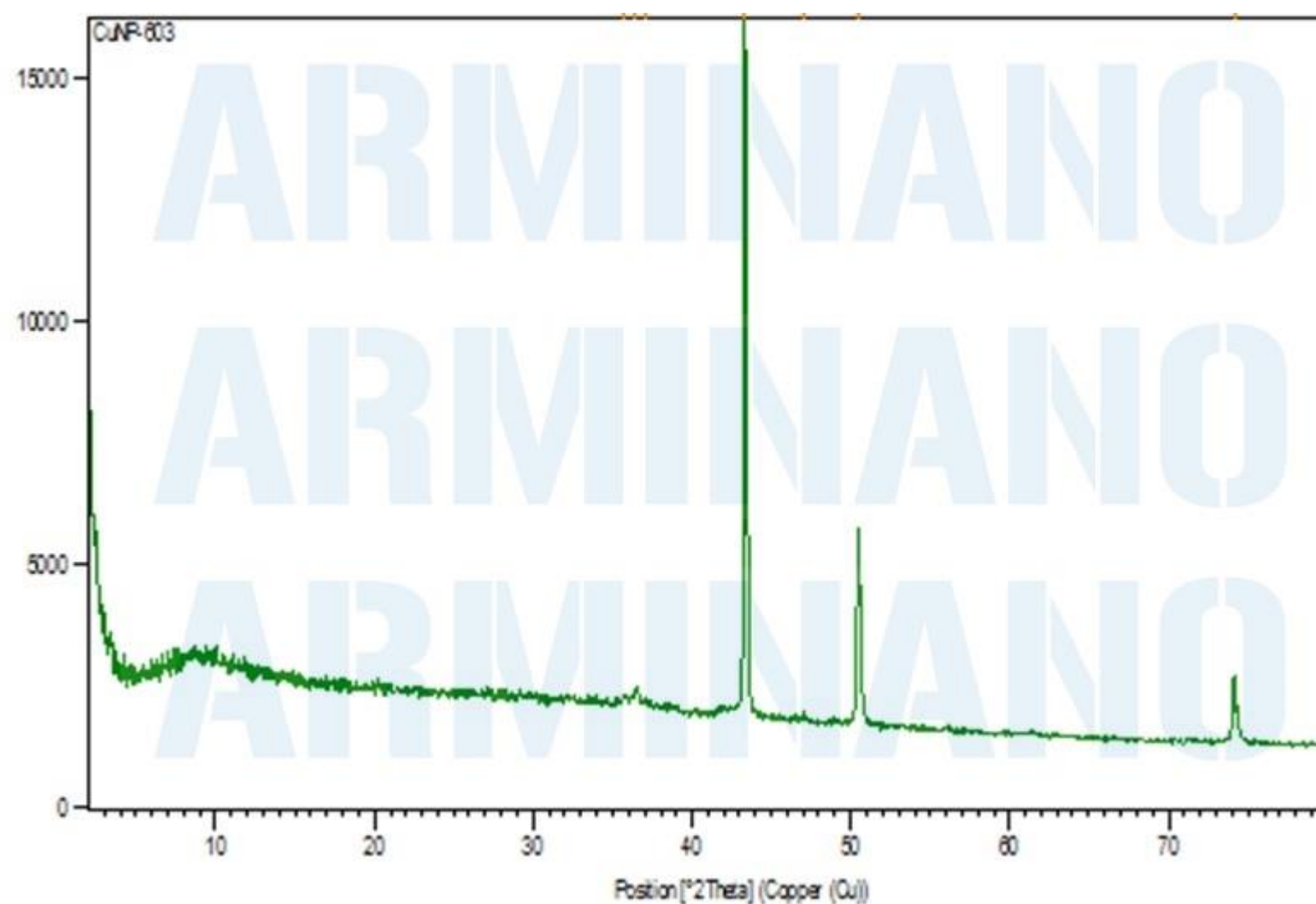
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SEM image of CNP101



TEM image of CNP101



XRD pattern of CNP101

### Storage:

- Keep it in cool dry place.
- Avoid direct sunlight.
- Do not freeze.
- To avoid oxidation, do not expose to air for so long.
- To disperse nanoparticles sonication could be used.

### Shelf life:

When stored as specified the product is stable for at least 6 months.

