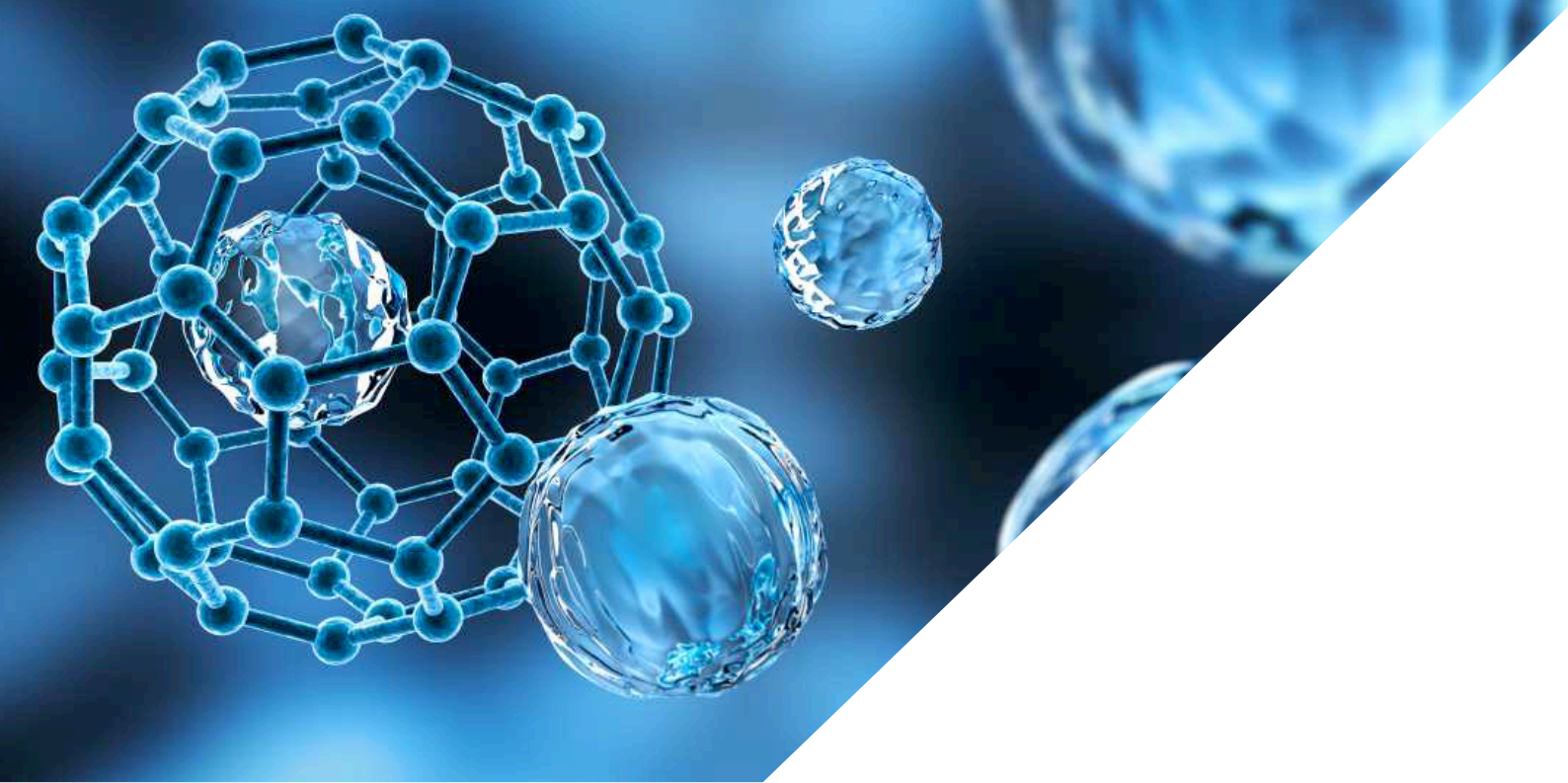




# NANOTED

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We are an Exclusive Worldwide Distributor, based in United States, Peru and Chile dedicated to the innovation and commercialization of different types of Nano-Particles on a large scale and of the highest purity, complying with the highest quality standards, for the use and development of various applications in the aeronautical, aerospace, energy, electronics, biomedical, mining, and automotive industries, the military, and any other field where the advancement of science allows.



## WHAT IS NANOTECHNOLOGY?

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Nanotechnology works with atoms and molecules like chemistry, but it does not transform matter to obtain new substances, but rather produces products on the “Nano” scale. This area of technology manipulates the molecular structure of materials to change their intrinsic properties and obtain new properties with revolutionary applications.

Nanotechnology and its microscopic universe offer tremendous possibilities for contemporary science and industry. This area began to develop between the 80s and 90s, and has grown strongly over the last two decades with a booming global market whose value will exceed **125,000 billion dollars** in the next five years, according to the report Global Nanotechnology Market.

The transformation of nature produced at the nano-scale is so powerful that it allows nanotechnology to provide unique responses to the nine primary human needs (health, energy, food, care of the environment, clothing, housing, communication, transportation and military development).

The future of nanotechnology projects global growth in this area spurred by technological advancements, increased government support, increased private investment, and growing demand for smaller devices.

We work in the development and production in large quantities of varying types of extra high purity Nano Metals tailored to our client's requirements.

## OUR PRODUCTS

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- Aluminium Nanoparticles
- Calcium Nanoparticles
- Copper Nanoparticles
- Graphene Nanoparticles
- Iron Nanoparticles
- Silver Nanoparticles
- Zinc Nanoparticles
- Gold Nanoparticles

We have state-of-the-art technology and a very advanced Research and Development department that allows us to create and process Nano Particles of various materials according to the client's needs.

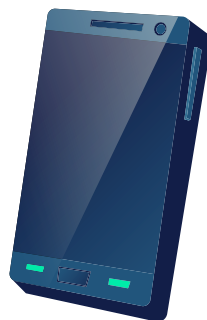
## ADVANTAGES OF NANOTECHNOLOGY

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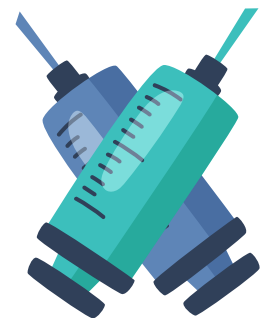
### Benefits Renewable Energies

It enables new ways of obtaining and storing energy. In addition, it **makes solar panels cheaper** and makes them more efficient.



### Push the Boundaries of Electronics

Unlike silicon microchips, nanochips **make it possible to build very precise** circuits at the atomic level with far better connectivity and speed.

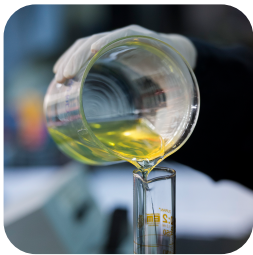


### Allows a more Effective Medicine

They can unblock arteries, selectively attack cells, **repair damaged genes** or perform faster and more expensive surgeries.

# ADVANTAGES OF NANOTECHNOLOGY

Energy innovations resulting from nanotechnology allow for more efficient solar panels, stronger and lighter wind turbines, lighter auto parts, and improved fuel efficiency.



## LUBRICANT ADDITIVES

The addition of copper nanoparticles in oils, greases and lubricants provide anti-friction and anti-wear properties, providing coating to non-ferrous materials subjected to high-impact mechanical work.



## CATALYSTS

Their physical and chemical properties highlight their high ratio of surface area and reactivity, which is why they provide the nanoparticles with characteristics of catalysts, improving the efficiency of various processes and chemical reactions such as the synthesis of glycol and methanol.



## CONDUCTIVE PASTES

Conductive pastes have been developed with the addition of copper Nano-Particles. These are widely used in the microelectronics industry, improving electrical conductivity properties, allowing to miniaturize electronic devices and improving their efficiency. With the use of copper Nano-Particles, conductive pastes acquire far superior properties over conventional pastes.



## GAS SEPARATION PROCESSES

The production of polymeric materials using metallic copper nanoparticles along with organic bridges is currently under research. These developments are applied for the purification of gases such as hydrogen.



#### **SINTERING ADDITIVES**

One of the most outstanding characteristics of copper Nano-Particles is their great ratio of surface area and volume. The high energy level they reach makes them attractive for the metallurgical powder industry, being used as sintering additives for the production of ceramic and refractory materials, and the manufacturing of filters, among others.



#### **HIGH PERFORMANCE BATTERIES**

The addition of copper nanoparticles and materials such as graphene to the lithium battery has enabled the industry to increase energy storage and battery performance.



#### **HEAT TRANSFERS**

Copper nanoparticle suspensions have excellent thermal conductivity. This property allows them to improve the characteristics of the fluids used in heat transfer. They are widely used in the manufacturing of heaters, industrial heat and energy transfer systems.



#### **AEROSPACE INDUSTRY**

Adding copper nanoparticles to plastics and polymers makes it possible to provide the same material with new electrical conductivity properties, that allows new products to be developed that are more light weight and resistant to extreme conditions such as temperature and pressure.



#### **BIOTECHNOLOGICAL INDUSTRY**

The use of copper nanoparticles in the biotechnology industry is currently under research, as they are able to turn into bioconjugated materials consisting of nanoparticles that act as indicators to help in the detection of molecules such as glucose, bacteria and antibodies.

# COPPER NANOPARTICLES

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Copper Nano-Particles acquire distinct and superior properties that copper does not have in its natural state.

Uses of Nano-Copper:

It acts as an antibiotic, antimicrobial and antifungal agent when added to plastics, coatings and textiles.

Food supplements have a higher absorption efficiency.

It enhances its thermal conductivity.

It serves as an additive and in sintering processes.

It acts as an efficient catalyst in chemical reactions.

It can be used in conductive inks and pastes.

It can be used as a conductive surface coating on ferrous and non-ferrous metals.

It can be used in electrical components and in the miniaturization of electronic components.

As an additive in lubricants.



# GENERAL CHARACTERISTICS

Our clients come mainly from the areas of technology, communications, military development, aviation, aerospace, governments, electronics and hardware manufacturers. Here we present one of our most specialized products:

## EXTRA HIGH PURITY NANO COPPER FLAKES WITH ANTI-RUST COATING.

In the following chart we show the general characteristics :

EXTRA HIGH PURITY NANO COPPER FLAKES WITH ANTI-RUST COATING		
Chemical Symbol	Cu	
CAS Registration Number	7440-50-8	
Group	11	
Electronic Configuration	3d10 4s1	
Density	8.96	g/ cm3
Atomic Mass	63.55	g/ mol
Melting Point	1083	°C
Boiling Point	2567	°C
Nanoparticle Size	<b>20-60</b>	Nm
Approximate Number of Nanoparticles	12,673425 * 10 <sup>21</sup>	Per Gram
Purity	99.9999	%

Please do not hesitate to contact us with any technical or commercial questions,

We are willing and able to send you the necessary physical samples of our product so that your company can analyze and test them.



## CONTACT US

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