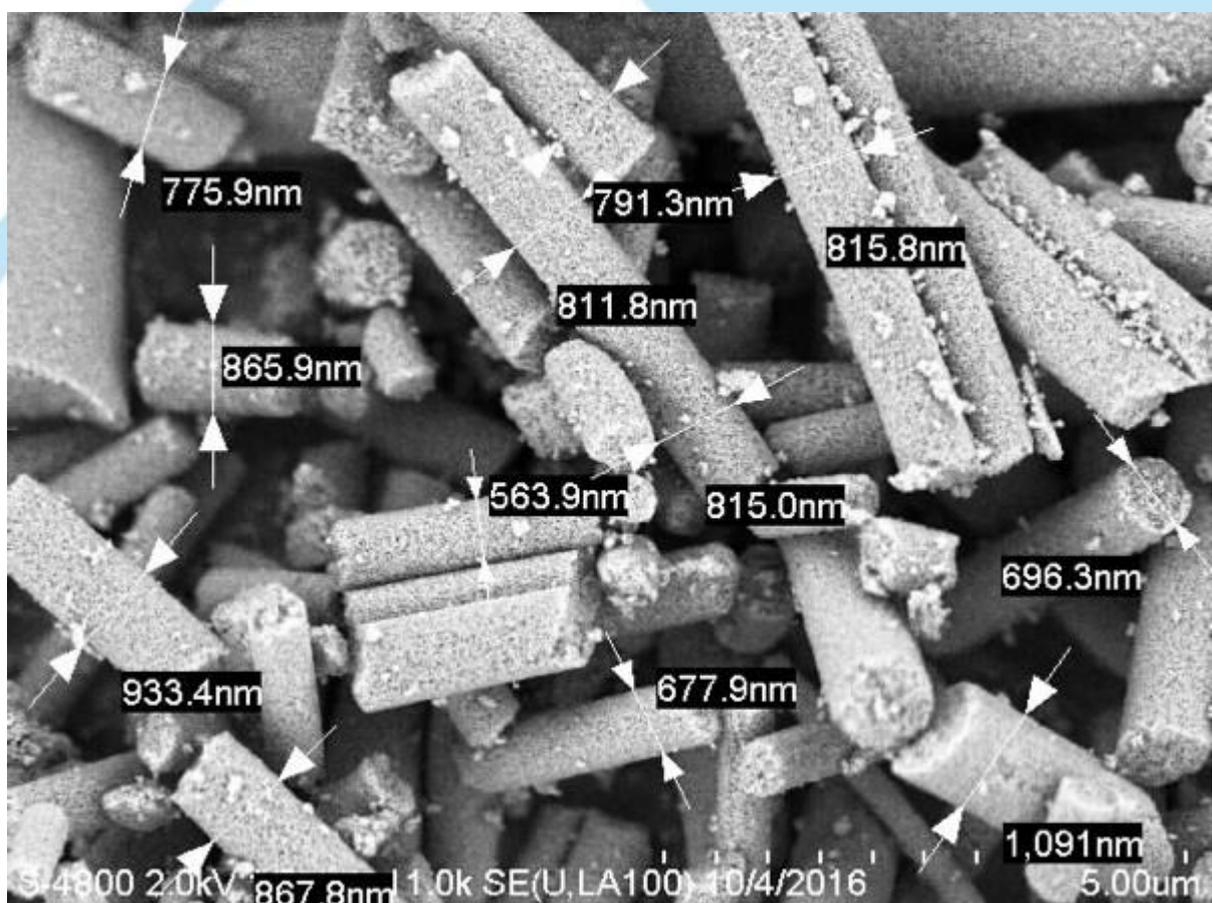


## NanoSil

### Product description:

Amorphous silicon dioxide nanofibrous material is a special functional material with unique properties represented by fine fibrous structure and high specific surface area. This material is produced on Centrifugal Spinning Technology which enables to produce fibers with diameter between 400 – 800 nm with relatively larger distribution of fiber diameters. Physical structure of the fibers can be either Cotton or Powder (after milling which brings also shortening). High specific surface area and very high aspect ratio can bring several advantages to new or existing products. This type of material can be produced in large volumes with easy and fast upscaling capacity.



## Applications:

Composite reinforcement | Filtration | Separation | Battery electrodes | Sensors | Humidity sorbents

## Material characteristics:

Fiber structure	glassy nanofiber
Typical fiber diameter	400 – 800 nm
Fiber length*	2 to hundreds of $\mu\text{m}$
Specific surface area **	50 – 500 $\text{m}^2/\text{g}$
Crystal phase	Amorphous $\text{SiO}_2$
Physical form	White cotton or powder

\*can be modified (shorten) by milling

\*\*can be modified by calcination temperature

Stable nanoporous material | Excellent electrical insulator – electrical conductivity  $< 10^{-18} \text{ Sm}^{-1}$  | High thermal shock resistance | Refractive index 1,45 | Melting point 1665 °C | Thermal conductivity  $1,3 \text{ Wm}^{-1}\text{K}^{-1}$

## Others:

- Composition of Nanosil: 99%  $\text{SiO}_2$  and 1%  $\text{Na}_2\text{O}$ .
- Product properties: it is solid, brittle, insoluble and inert.
- The product usage and function - it increases the strength, flexibility, it is the possible carrier for silver, platinum even within some catastrophe properties.
- And what do the advantages - when using it consist of large, specific surface, small fibre size, insoluble, stable, it does not sediment in the solution (water), it can be ground.
- The applications where Nanosil is used - colours, catalysts, gas filters, dentistry, ceramics and of course there will be some other applications.
- Health protectio: we have the certifications and the study of non-toxicity of the product which does not cause the silicosis.



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