

## Silicon Dioxide Nanoparticles SOP13

### Description:

Silicon dioxide, also known as silica, is an oxide of silicon with the chemical formula  $\text{SiO}_2$ , most commonly found in nature as quartz. Silica compounds can be divided into two groups, crystalline (or c-silica) and amorphous silica (a-silica or non-crystalline silica). a-Silica chemical structures are more randomly linked when compared to c-silica. Silica is odorless solid composed of silicon and oxygen atoms. Amorphous and dielectric properties of  $\text{SiO}_2$  are suitable to be used as microwave absorber electric for anti-radar.

Characterization	
CAS	7631-86-9
Stock No.	SOP1301
Molecular formula	$\text{SiO}_2$
Molecular weight (g/mol)	60.08
Form	Powder
Color	White
Morphology	Semi-spherical
Crystal structure	Amorphous
Size range (nm)	40-80
Total impurity (%)	N/A
Density (g/cm <sup>3</sup> )	2.5
Solubility	Insoluble

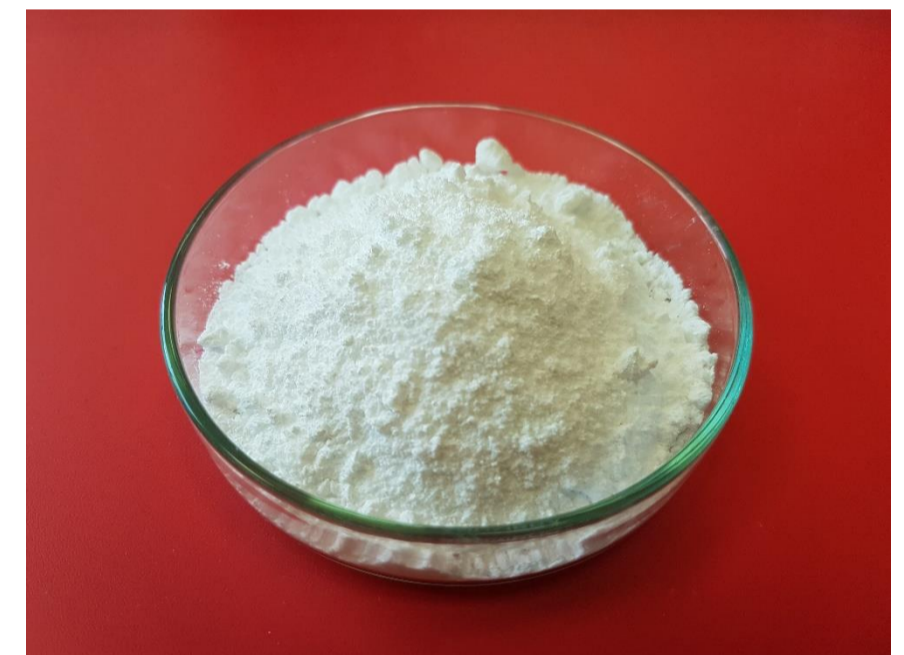


Image of silicon dioxide nanopowder (SOP1301)

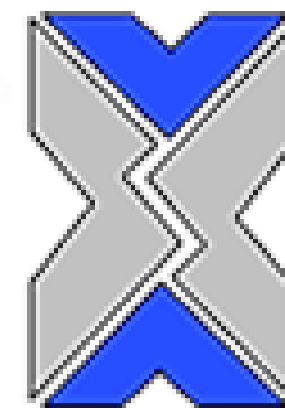
**Note:** product specifications are subject to amendment and may change over time.

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

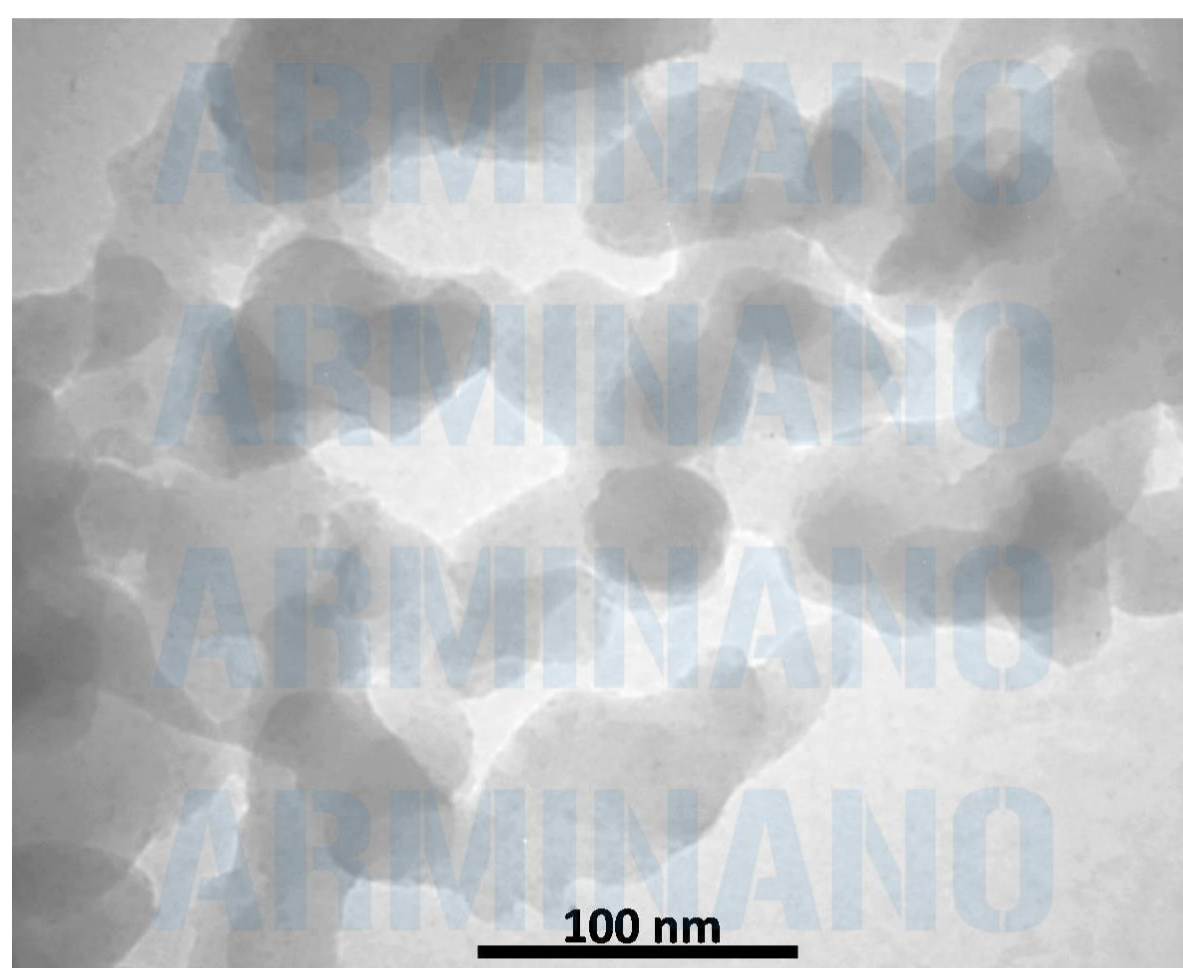
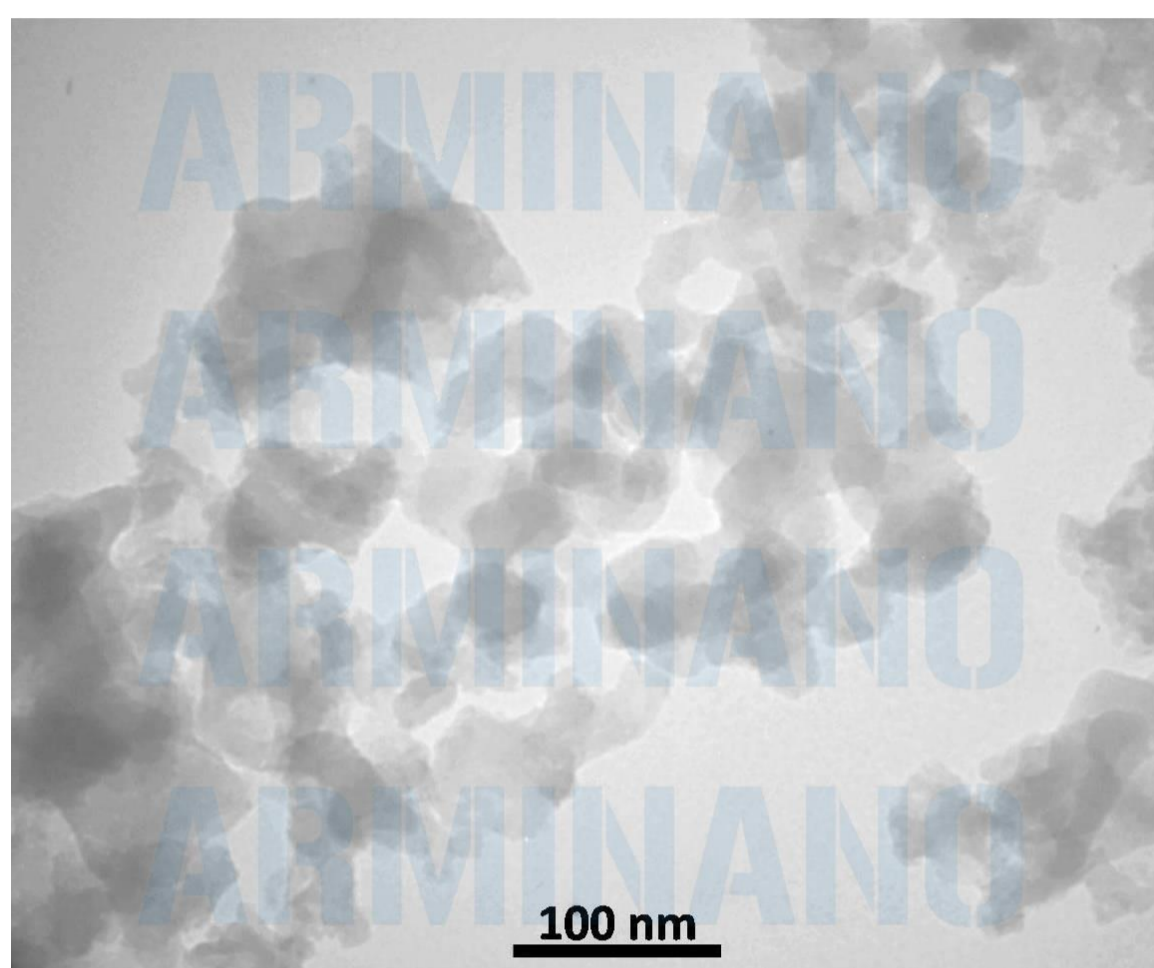
As filler in rubber and plastics, drying powder, substrate for catalysts, anticorrosion agent, electronic devices, insulator, food additives, pharmaceutical.

### Safety:

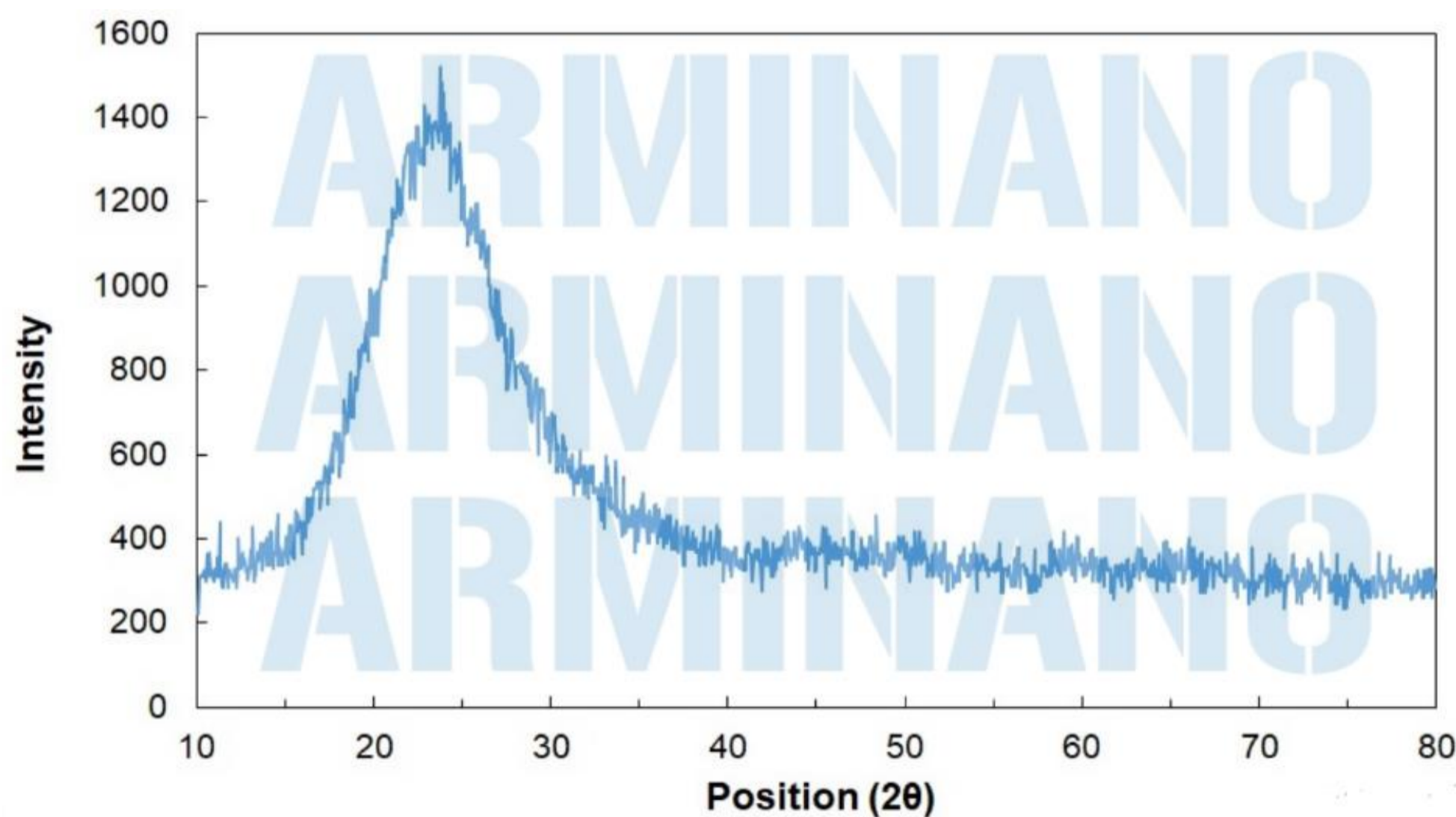
Avoid breathing dust.  
Always use protective gloves and safety glasses.  
Wash with soap and water after exposure.  
Refer to MSDS prior to handling this material.



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TEM images of ZNP402



XRD pattern of SOP1301

### Storage:

Keep it in cool dry place.  
Avoid direct sunlight.  
Do not freeze.  
To disperse nanoparticles sonication could be used.

### Shelf life:

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