



Zinc Oxide Nanoparticles

Product Catalogue

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Working

Zinc oxide nanoparticles (Zinc Oxide Nanopowder) or ZnO Nanoparticles are minute particles of zinc oxide having diameters of fewer than 100 nanometers. They feature a vast surface area for their size and high catalytic activity. Zinc is an essential inorganic element widely utilized in health, biology, and industry. An adult's daily consumption is 8–15 mg/day, with around 5–6 mg/day lost through urine and perspiration. It is also a necessary component of bones, teeth, enzymes, and many functioning proteins. We manufacture ZnO nanoparticles by Sol-Gel method in bulk quantity with multi-point of quality check to get accurate Zinc oxide nanopowder.

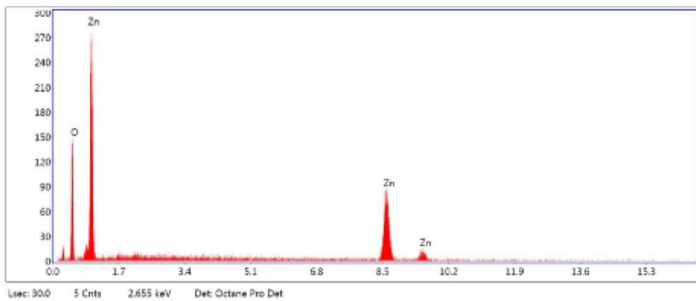
Product Code: ZnO-Nano

Technical Properties

<i>SPECIFICATIONS</i>	<i>VALUES</i>
Molecular Formula	ZnO
CAS Number	1314 - 13 - 2
Bulk Density	0.58 g/cm ³
Average Particle Size	10 - 40 nm
Molecular Weight	81.408 g/mol
Melting Point	1975 °C
Purity	>99.9%
Form Factor	Powder
Morphology	Spherical
Surface Area	100 – 120 m ² /g
Colour	Milky White

Characterization Analysis

EDX

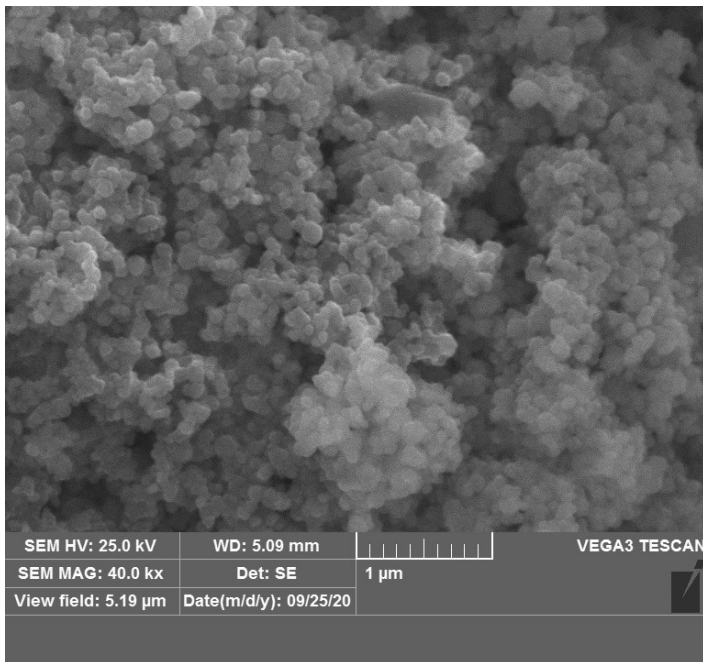


EDX 2

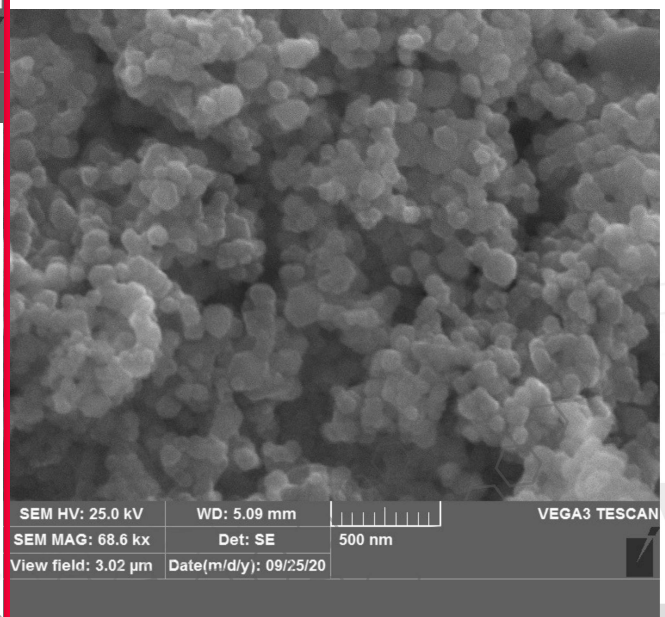
eZAF Smart Quant Results

Element	Weight %	Atomic %
O K	39.61	72.63
Zn K	60.39	27.17

SEM 1



SEM 2



Particles Size Distribution

Size Distribution Report by Intensity

v2.2



Sample Details

Sample Name: Z1

SOP Name: mansettings.nano

General Notes:

File Name: Metal.dts	Dispersant Name: Water
Record Number: 92	Dispersant RI: 1.330
Material RI: 1.17	Viscosity (cP): 16.1118
Material Absorbance: 0.100	Measurement Date and Time: 17 April 2021 16:27:33

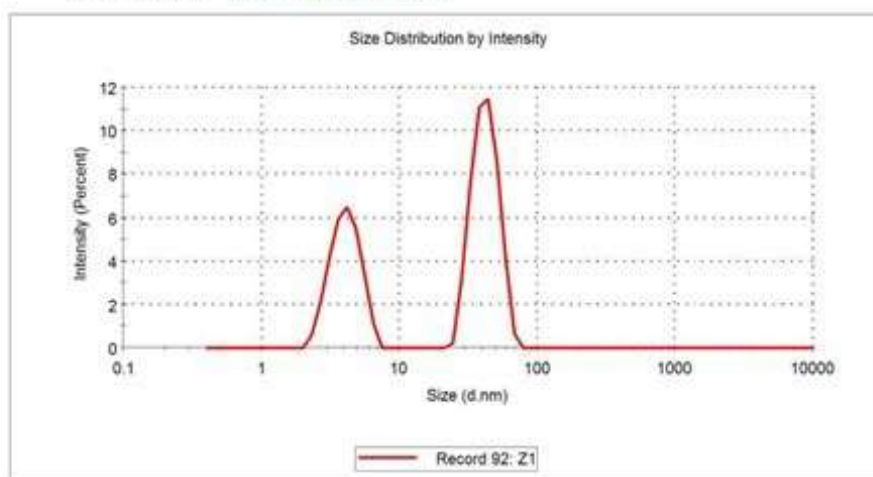
System

Temperature (°C): 25.0	Duration Used (s): 30
Count Rate (kcps): 177.0	Measurement Position (mm): 4.65
Cell Description: Disposable sizing cuvette	Attenuator: 8

Results

	Size (d.n...	% Intensity:	St Dev (d.n...
Z-Average (d.nm): 18.03	Peak 1: 42.34	77.0	9.006
Pdl: 0.530	Peak 2: 4.153	23.0	0.9914
Intercept: 0.884	Peak 3: 0.000	0.0	0.000

Result quality **Refer to quality report**



Applications

- Personal care products, such as Cosmetics and Sunscreen
- Exhibit excellent Biomedical applications, such as Anticancer, Drug Delivery
- Antibacterial and Diabetes Treatment
- Anti-inflammation, Wound Healing and Bioimaging
- Improve the Flexural Strength of Self-compacting Concrete
- Gas Sensor, Biosensor, Cosmetics, and Storage
- Paints and Coatings
- Fertilizers
- Optical Devices, Window Materials for Displays
- Solar Cells

Features

- It has high purity with a high melting point
- Zinc oxide Nanoparticles are versatile
- Antibacterial, Antifungal and Antifouling agent
- Have good chemical stability and Thermal resistance
- Robustness and long shelf life
- Have selective Toxicity to Bacteria
- Have Excellent Biocompatibility and Low Toxicity
- Ability to Trigger excess reactive Oxygen species (ROS) production
- ZnO nanoparticles have UV-blocking properties

Safety Instructions

- Protective gloves should be worn at the time of operation.
- Safety goggles are a must during handling.
- Do not touch any part of the skin or eyes while using.
- Store in a moisture-proof dry place.

Packaging

It is supplied in a highly-protective moisture-proof bottle with a seal. It is finally packed in a shockproof sheet with a corrugated box.

Handling

When handling, the researcher should use powder-free non-latex gloves, which should be held carefully. While experimenting, if the operator uses a nanopowder with bare hands, the chances of contamination due to finger oil are very high. Therefore, it is advised to use nylon or polyester gloves.



Feel Free to Reach Us

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