NANOSHEL
Creating Miracles in Black

NICKEL OXIDE NANOPOWDER

Purity
99.9%

NiO

NS6130-03-338

NEXT

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NICKEL OXIDE NANOPOWDER

Nanoparticles (NPs) are cluster of atoms having at least one dimension in the size range of 1–100 nm. Owing to their unique optical, magnetic, catalytic, and electrical properties, they have potential applications in various fields. The physicochemical properties of NPs are different as compared to those of their bulk counterparts owing to the fact that surface area to volume ratio increases and quantum effects become dominant as the size decreases. The increase in surface area to volume ratio alters the mechanical, catalytic, and thermal properties of material.

Nickel oxide NPs find potential applications in various fields including electronics, magnetism, energy technology, and biomedicines. Due to their high reactivity, operational simplicity, and eco-friendly properties they are used to catalyze various organic reactions including chemoselective oxidative coupling of thiol, reduction of aldehydes and ketones, hydrogenation of olefins, synthesis of stilbenes from alcohol through Wittig-type olefination, and a-alkylation of methyl ketone. They also catalyze certain inorganic reactions like decomposition of ammonia. One of their recent applications is their role in the fabrication of carbon nanotubes (CNTs).

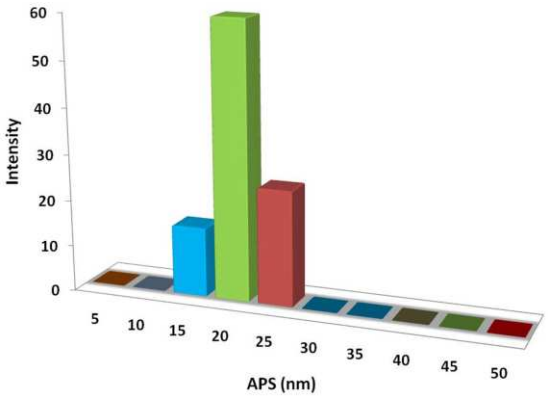
They also find environmental applications in the field of adsorption of hazardous dye and inorganic pollutants and thus play a vital role in the cleanliness of environment. Due to their good antibacterial and anti-inflammatory activities they are used in the field of biomedicine

Quick FACTS

Product	:	Nickel Oxide Nanopowder
Stock No	:	NS6130-03-338
CAS	:	1313-99-1
Color	:	Dark green/Black/Gray
Form	:	Powder
Symbol	:	NiO
Group	:	Nickel 4/Oxygen 16

Electronic Configuration:

Nickel [Ar] 3d8 4s2Oxygen [He] 2s2 2p4



ADDITIONAL POWDER CHARACTERISTICS

Stock No.	Purity	APS
NS6130-03-338	99.9%	100nm

TECHNICAL SPECIFICATION

Molecular Formula	Molecular Weight	Density	Melting Point
NiO	74.692 g/mol	6.67 g/cm³	1955 °C

CHEMICAL COMPOSITION

Product	Weight Percent (nominal)	
	NiO	Other Metal
Nickel Oxide Nanopowder	99.9%	750ppm

APPLICATIONS

- In preparation of nickel cermet for the anode layer of solid oxide fuel cells
- In lithium nickel oxide cathodes for lithium ion micro batteries
- In electrochromic coatings, plastics and textiles
- In nanowires, nanofibers and specific alloy and catalyst applications
- As a catalyst and as anti-ferromagnetic layers
- In light weight structural components in aerospace
- Adhesive and coloring agents for enamels
- In active optical filters
- In ceramic structures
- In automotive rear-view mirrors with adjustable reflectance
- In cathode materials for alkaline batteries
- Electro chromic materials
- Energy efficient smart windows
- P-type transparent conductive films

CE 20ZICE4589C | GMP CERTIFIED 19ZAZGO1274G | ISO 13485:2016 CERTIFIED 20ZICE4588M

ISO 9001:2015 CERTIFIED COMPANY

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