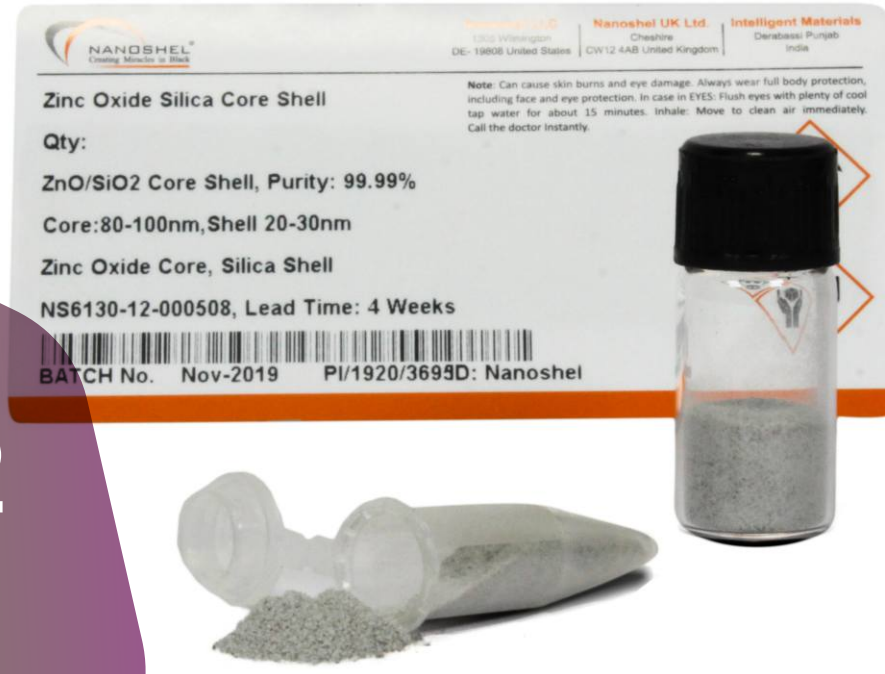
NANOSHEL
Creating Miracles in Black



ZnO- Sio2 Core Shell

99.9%
(Purity)

Stock no:
NS6130-12-000508

Core/shell nanostructure have gained attention from the past two decades as it can be operated as a multifunctional nanomaterial. Due to its distinguished property core/shell nanomaterials are used in various applications like sensors, electronics, optoelectronics, catalysis, biomedical, etc.
The size and width of the shell influence the surface charge, surface reactivity, stability, and dispersive ability of the core. The advantage of core/shell nanoparticle in the biomedical applications are high chemical stability, low cytotoxicity, improved hydrophilicity for bio and cytocompatibility, surface modification and functionalization.
SiO2 was selected as a shell due to its biocompatibility, water stability, surface chemistry, wider bandgap and ease to functionalization. Moreover, silica shells block the diffusion of molecules from the core and the shell which reduces the toxic effect of the nanoparticles . The growth of inorganic SiO2 over ZnO nanoparticles improves the photoluminescence yield, photostability of the nanoparticles by reducing the nonradiative recombination. In addition to that, the surface to volume ratio of porous SiO2 nanoparticle facilitates better surface functionalization through covalent bonding or electrostatic interaction.
The silicon shell enhances the photoluminescence and aqueous stability of the pure ZnO nanoparticles. The porous surface of the shell acts as a carrier for sustained release of curcumin. The synthesized core/shell particle shows high cell viability, hemocompatibility and promising florescent property

Chemical Identifiers

Purity	:	99.9%
Chemical name	:	Zno/Sio2
APS	:	80-100nm
Molecular Weight	:	-
Density	:	-
Melting Point	:	-

Applications

- ✓ Bioimaging
- ✓ Drug delivery
- ✓ Electronics
- ✓ Optoelectronics, Laser
- ✓ Sensors, Energy generators

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