

NanoPharma Applications - MARKET

S. No.	Type of Nanoparticles	Material Used	Applications
1.	Polymeric Nanoparticles	Biodegradable Polymers	Controlled and targeted drug delivery
2.	Solid Lipid Nanoparticles	Melted lipid dispersed in an aqueous surfactant	Least toxic and more stable colloidal carrier systems as alternative materials to polymers
3.	Nanosuspensions & Nanocrystals	The drug powder is dispersed in a surfactant solution.	Stable system for controlled delivery of poorly soluble drugs.
4.	Polymeric micelles	Amphiphilic block copolymers	Systemic and controlled delivery of water-insoluble drugs
5.	Ceramic nanoparticles	Silica, alumina, titania	Drug targeting, Bio-molecules delivery
6.	Liposomes	Phospholipid Vesicles	Controlled and targeted drug delivery
7.	Dendrimers		Carriers for site specific drug delivery
8.	Magnetic nanoparticles	An inorganic core of iron oxide (magnetite Fe_2O_3 , maghemite or other insoluble ferrites) coated with polymer such as dextran.	Drug targeting, Diagnostic tool in biology and medicine.
9.	Nanoshells coated with gold	Dielectric (typically gold sulfide or silica) core and a metal (gold) shell.	Tumor Targeting
10.	Nanowires or Carbon Nanotubes	Metals, semiconductors or carbon	Gene and DNA delivery
11.	Nanopores	Aerogel, which is produced by sol-gel chemistry	Controlled release drug carriers
12.	Quantum Dots	CdSe–CdS core-shell	Targeting, Imaging Agent
13.	Ferrofluids	Iron oxide magnetic nanoparticles surrounded by a polymeric layer	For capturing cells and other biological targets from blood or other fluid and tissue samples.

* This is only for Research labs.