

# Nanoparticles

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**Abstract:** *Nanoparticles typically range in size from 1 to 100 nm in one (or more) dimensions. In general, nanoparticles are characterized as inorganic, organic, or carbon particles on a nanometric scale, and their properties are superior to those of bigger materials. They exhibit improved qualities such as strength, sensitivity, high reactivity, stability, surface area, and so on as a result of their small size. They were synthesized using a variety of technologies for research and commercial applications, which are categorized into three types: chemical, physical, and mechanical procedures that experienced significant progress. This work presents an overview of nanoparticles, their types, characterisation, production processes, and applications in the field of environment.*

**Keywords:** Nanoparticles, Types, Synthesis, characteristics and applications.