

# An In-Depth Study on the Classification and Uses of Nanocomposites

Reena<sup>1</sup> and Dr. Yatendra Kumar Gupta<sup>2</sup>

Research Scholar, Department of Chemistry<sup>1</sup>

Associate Professor, Department of Chemistry<sup>2</sup>

Sunrise University, Alwar, Rajasthan, India

**Abstract:** *Materials known as nanocomposites are heterogeneous or hybrid materials created by combining nanoscale particles from ordinary materials with particular combinations of properties. Complex structures will be present in nanocomposites. The content, structure, and interfacial interactions of each individual component will determine the overall structure of the nanocomposites. The growing need for nanocomposites makes them a viable choice for industrial use in both small- and large-scale manufacturing sectors. The superior performance of nanocomposites in the automotive, construction, electronics, and information technology sectors from food packaging to biomedical applications has led to a major increase in their uses. Various experimental methodologies are used to synthesise nanocomposites, depending on parameters such as analysis, cost control measures, and improved procedure. The purpose of this review is to learn about the many kinds of nanocomposites, their characteristics, and their uses. This overview covers the advantages, features, and uses of nanocomposites.*

**Keywords:** nanocomposites, chemical behavior, heat resistance.