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Recent advancement in polymer/halloysite nanotube nanocomposites for biomedical applications

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Abstract

Halloysite nanotubes (HNTs) have recently been the subject of extensive research as a reinforcing filler. HNT is a natural nanoclay, non-toxic and biocompatible, hence, applicable in biomedical fields. This review focuses on the mechanical, thermal, and functional properties of polymer nanocomposites with

HNT as a reinforcing agent from an experimental and theoretical perspective. In addition, this review also highlights the recent applications of polymer/HNT nanocomposites in the biomedical fields. © 2022 Wiley Periodicals LLC.

Author keywords

biomedical applications; halloysite nanotube; mechanical properties; nanocomposites; thermal properties

Indexed keywords

MeSH

Aluminum Silicates; Clay; Nanocomposites; Nanotubes; Polymers

Engineering controlled terms

Biocompatibility; Functional polymers; Kaolinite; Medical applications; Nanotubes

EMTREE drug terms

halloysite nanotube; nanocomposite; polymer; aluminum silicate; nanotube; polymer

Engineering uncontrolled terms

Biomedical applications; Biomedical fields; Functional properties; Halloysite nanotubes; Mechanical/thermal properties; Nano clays; Non-toxic; Polymer nanocomposite; Polymer-nanocomposite; Reinforcing fillers

EMTREE medical terms

biodegradation; drug delivery system; human; mechanics; molecular interaction; nonhuman; Review; thermal analysis; tissue engineering; clay

Engineering main heading

Nanocomposites

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