

## **Role of Nano-Technology on Remediation of Poly- and Perfluoroalkyl Substances Contaminated Soil and Ground Water**

**Authors :** Leila Alidokht

**Abstract :** PFAS (poly- and perfluoroalkyl substances) are a large collection of environmentally persistent organic chemicals of industrial origin that have a negative influence on human health and ecosystems. Many distinct PFAS are being utilized in a wide range of applications (on the order of thousands), and there is no comprehensive source of information on the many different compounds and their roles in diverse applications. Facilities are increasingly looking into ways to reduce waste from cleanup projects. PFAS are widespread in the environment, have been found in a wide range of human biomonitoring investigations, and are a rising source of regulatory concern for federal, state, and local governments. Nanotechnology has the potential to contribute considerably to the creation of a cleaner, greener technologies with considerable environmental and health benefits. Nanotechnology approaches are being studied for their potential to provide pollution management and mitigation options, as well as to increase the effectiveness of standard environmental cleanup procedures. Diversified nanoparticles have shown useful in removing certain pollutants from their original environment, such as sewage spills and landmines. Furthermore, they have a low hazardous effect during production rates and can thus be thoroughly explored in the future to make them more compatible with lower production costs.

**Keywords :** PFOS, PFOA, PFAS, soil remediation

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