

Chapter 3

Metal-Organic Framework Nanocomposites for Adsorptive Applications

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Abstract

This chapter discusses the use of metal-organic framework nanocomposites (MOFNs) for the adsorptive removal of pollutants in the aquatic environment. The precursor materials and synthesis pathways for MOFNs determine their properties and their subsequent applications. Certain functionalities can be included to tailor the materials for the removal of targeted pollutants. The synergistic effect of the addition of nanoparticles on the ability of MOFs to remove various pollutants from contaminated aquatic systems is discussed. Proven and potential applications beyond environmental remediation are presented, and a raft of future research directions proposed.