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Abstract

Nanomaterials as Sensor: For Water and Air Pollutants †

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Abstract: Environmental restoration is one of the global concerns today. The degradation of environment is impacting it's biodiversity and also is showing an adverse effect on human health. Hydrocarbons, CO, chlorofluorocarbons, volatile organic compounds, and nitrogen oxides are the principal contributors to air pollution. Water that has been contaminated with both organic and inorganic substances. The main sources of water contamination are sewage water, industrial effluents and inadequate use of pesticides and fertilisers. The need of better technological advancements are required to reduce pollution levels. There is a lot of interest in the potential applications of nanomaterials in better systems for monitoring and cleaning up water and air contaminants. Nanomaterials, such as zeolites, carbon nanotubes, and nano-adsorbents, are a few examples that can be employed for the removal of metallic contaminants from water and wastewater. Various nanomaterials have also been produced for the detection and removal of gaseous pollutants from air, such as carbon, graphene, metal and metal oxide nanomaterias etc. Due to their significant specific surface areas and high reactivities, nanomaterials are ideal adsorbents, catalysts, and sensors. It can help in designing new methods for sensing and detection of pollutants. The present review gives an insight of the major applications of nanomaterials for removing contaminants from air and water.

Keywords: nanomaterials; sensor; detection; water contamination; air pollution

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