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# Nanoparticles in Air and Their Impact on Air Quality

- Chapter
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## Environmental Nanotoxicology

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## Abstract

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The chances of nanoparticles (NPs) being discharged into the environment have escalated due to their extensive application in diverse fields and their approximate annual global production range of 550–33,400 metric tons. These nanoparticles, which are well known as biosafe materials, have gained an abundant attention due to their versatility and ease of usage in a number of industries, such as cosmetics, drugs, and agriculture. An ever-growing class of airborne pollutants are metal-containing nanoparticles derived from both natural and man-made sources. The increasing use of these particles has resulted in growing number of complex deposits in the air we breathe. The more of these particles we use, the more complicated the structures of the air we breathe become. The atmosphere contains nanoparticles from a variety of sources. Designed nanoparticles can leak into the atmosphere during manufacture and application. Most of the time, combustion processes related to energy generation, transportation by vehicles powered by gasoline or diesel, and other industrial activities result in the production of nanoparticles in urban settlements. Conversely, however, the nucleation and development of new particles, or new particle production, is a significant source of nanoparticles in rural areas. These compounds are released into the environment due to the growing use of engineered nanoparticles in residential and commercial settings. Awareness of these NPs' mobility, reactivity, ecotoxicity, and persistence is necessary to evaluate the harm they pose to the environment.

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