

Artículo

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Título

Diesel exhaust particles in the work environment and their analysis.

(Partículas de humos de escape diesel en el lugar de trabajo y su análisis)

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Abstract

Diesel engines are widely used in industries, for example transportation, mining, and construction, because they efficiently produce high power. Diesel exhaust particles (DEP), the number of ultrafine particles, less than around 100 nm, is dominant in contrast to mass size distribution. Carcinogenic PAHs may be adsorbed on DEP at high concentrations. As occupational exposure usually occurs near emission sources, workers are likely to be exposed to high concentration DEP. The exhaust emissions of diesel engines have become lower by modification of the engines and fuels, and introduction of filters and catalysts, thus it has become more difficult to monitor mass and chemical components in DEP. New technology and instruments are being introduced to characterize DEP especially chemically. Recently, quick analytical methods without extraction, and continuous or semi-continuous methods have been introduced. This article will review 1) Elemental Carbon (EC) monitors, 2) analytical methods of individual PAH without solvent extraction, and 3) continuous PAH monitor, because EC and PAH are typical constituents for DEP.

Enlace

PubMed: <http://www.ncbi.nlm.nih.gov/pubmed/15540621>