

عنوان مقاله:

Introduction of a Simple Chamber for the Production and Simulation of Airborne Pollutants for Laboratory Use

محل انتشار:

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خلاصه مقاله:

Background: Designing training aids for students to increase their practical capability and skills is done by using modern educational methods. The aim of this study was to design a simulator of airborne pollutants for measuring gases, vapors and particles in the lab for student training. Methods: The present study investigated different systems based on reviewing the literature of conducted research studies around the world. Then, designing the simulator system of the airborne pollutants was carried out after studying the capabilities of available systems, considering the viewpoints of experts and focusing on the aims of the study. Results: The designed chamber consisted of a main component which, in addition to some complexes such as the blowing system, the evacuation funnel, the warming chamber, and control box, made the production and simulation of the particle and gaseous pollutants feasible in different atmospheric conditions. Conclusions: The production and simulation of airborne pollutants in an experimental chamber under controlled conditions can facilitate the accomplishment of different assessments on pollutants. The designed device benefits both having a simple yet creative fabricated system and low manufacturing costs. Therefore, it can be used readily as a suitable device for extensive research on pollutants in the educational and research centers.

کلمات کلیدی:

Simulation chamber, Airborne pollutants, Sampling, Laboratory

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