

عنوان مقاله:

Recent Advances in Microextraction Methods for Sampling and Analysis of Volatile Organic Compounds in Air: A Review

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خلاصه مقاله:

Human exposures to volatile organic compounds (VOCs) are associated with a wide range of health problems. Due to these adverse effects of VOCs on the human health, determination of trace levels of VOCs is very important for accurate assessment of indoor and outdoor exposure. Solid phase microextraction (SPME), needle trap device (NTD) and hollow fiber- liquid phase microextraction (HF-LPME) are increasingly used for accurate determination of VOCs in air. In this paper, authors have reviewed new developed forms of SPME, NTD and LPME techniques for the sampling and analysis of VOCs in air with a main focus on SPME coating fibers and NTD sorbents. The effects of some environmental and device parameters on SPME and NTD samplers are also reviewed. Moreover, several analytical parameters such as carryover effect, storage time, limit of detection (LOD) and limit of quantitation (LOQ) of these .new technologies are discussed. Finally, the applicability, limitations and future trends of these methods are reviewed

کلمات کلیدی:

Volatile organic compounds (VOC), Solid phase microextraction (SPME), Needle trap device (NTD), Air

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