

Parameters of Validation Method of Determining Polycyclic Aromatic Hydrocarbons in Drinking Water by High Performance Liquid Chromatography

Authors : Jonida Canaj

Abstract : A simple method of extraction and determination of fifteen priority polycyclic aromatic hydrocarbons (PAHs) from drinking water using high performance liquid chromatography (HPLC) has been validated with limits of detection (LOD) and limits of quantification (LOQ), method recovery and reproducibility, and other factors. HPLC parameters, such as mobile phase composition and flow standardized for determination of PAHs using fluorescent detector (FLD). PAH was carried out by liquid-liquid extraction using dichloromethane. Linearity of calibration curves was good for all PAH (R^2 , 0.9954-1.0000) in the concentration range 0.1-100 ppb. Analysis of standard spiked water samples resulted in good recoveries between 78.5-150%(0.1ppb) and 93.04-137.47% (10ppb). The estimated LOD and LOQ ranged between 0.0018-0.98 ppb. The method described has been used for determination of the fifteen PAHs contents in drinking water samples.

Keywords : high performance liquid chromatography, HPLC, method validation, polycyclic aromatic hydrocarbons, PAHs, water

Conference Title : ICFTS 2021 : International Conference on Food Toxicology and Safety

Conference Location : Amsterdam, Netherlands

Conference Dates : May 13-14, 2021