

PHTHALATE ESTERS DETERMINATION BY GAS CHROMATOGRAPHY COUPLED TO MASS SPECTROMETRY IN BRAZILIAN HOUSE DUST

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The study of organic and inorganic contaminants in house dust and its contribution is a marker of indoor exposure and also has been of great worth for human health. Several studies have identified the house dust as an important route of toxicant exposure. Frequently, the some pollutants had found in house dust, including compounds banned long years ago, significant exposure for the general population, especially in the case of young children has been determined. House dust and their absorbable compounds may enter the human body by inhalation of suspended and resuspended particles, through nondietary ingestion of particles adhering to food and also by absorption through the skin of the furniture and toys surfaces. The objectives of analyzing house dust are to describe the extent, distribution and exposure and as well to identify possible sources of indoor contamination to record the intervention or sanitation processes. The main purpose of this work was to study of phthalate esters contents in Brazilian house dusts, which ones located in the industrial and residential areas. The samples were collected by own dwellers according to a protocol designed to capture all the surface dusts, using a domestic vacuum cleaner. For the analysis of organic pollutants, the <63 µm size fraction is desirable to minimize the inhomogeneity of the lower subsamples factor. The samples were submitted to solid phase extraction (SPE) with dichloromethane, according to EPA 8061 method. The analysis was performed by Gas Chromatography coupled to Mass Spectrometry (GC/MS) and the compounds were identified by its library. Results of the house dust study are presented mainly for dimethyl, diethyl, di-n-butyl and bis-2-ethylhexyl phthalates.