

DETERMINATION OF PHTHALATES IN ENVIRONMENTAL MATRICES

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Phthalates are esters of 1, 2 benzene dicarboxylic acid with linear and branched including aromatic moieties alcohols; resulting in a wide range of products widely used as plasticizers to increase flexibility of polymers and carrier agent in cosmetics; and pharmaceuticals. Due to their extensive use in products commonly used daily in home, vehicle and workplaces, phthalates and their metabolites have become ubiquitous environmental pollutants. Depending on the alcohol moiety phthalates are divided into three categories: single compounds, multiple isomers, and mixtures of several phthalates. The analytical challenge for these compounds are lack of authentic standards, complex analytical mixtures and background contamination resulted from the extensive use of phthalates in many products including laboratory equipment.

In this presentation analytical procedures developed in our laboratory for analysis of phthalates in environmental matrices will be presented. Our methods are based on in-situ extraction and fractionation followed by determinations using GC/MSMS and LC/MSMS techniques.