**GAS CHROMATOGRAPHIC ANALYSIS OF PHTHALATE ESTERS IN PLASTIC MATERIALS AFTER SOLVENT TREATMENT (133)**

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Phthalate esters are added as plasticizers in plastic materials, especially in polyvinyl chloride (PVC). All over the world in large quantities used phthalates are Bis(2-ethylhexyl) phthalate (DEHP), diisononyl phthalate (DINP), diisodoceyl phthalate (DIDP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), diisobutyl phthalate (DIBP), ditridecyl phthalate (DTDP), diethyl phthalate (DEP) and dimethyl phthalate (DMP). Since they are not chemically but only physically bound to the polymer chains, they may be leached into food and beverages from the plastic containers. Some of these phthalates might be responsible for prenatal and development toxicity, asthma, estrogenic effect [1]. Therefore The US Environmental Protection Agency (EPA) and several other countries classified the commonly occurring phthalates as priority pollutants and set the maximum contamination level for DEHP in water system at 6 μg l⁻¹. Also EU have issued new regulations which requires that product marketed for use in children’s toys may not contain more than 0.1% DEHP, DBP or BBP and essentially a total ban has been enforced in toys likely to be chewed by babies.

Gas chromatography (GC) and high-performance liquid chromatography (HPLC), after different pre-concentration and separation steps, are commonly used techniques for determination of these compounds in environmental samples [2-3].

In this study, different organic extraction procedures were compared in determination of the contents of phthalate esters in food packaging and baby toys. Both extraction parameters and GC-MS conditions were optimized by analysis of six phthalates.

**References**