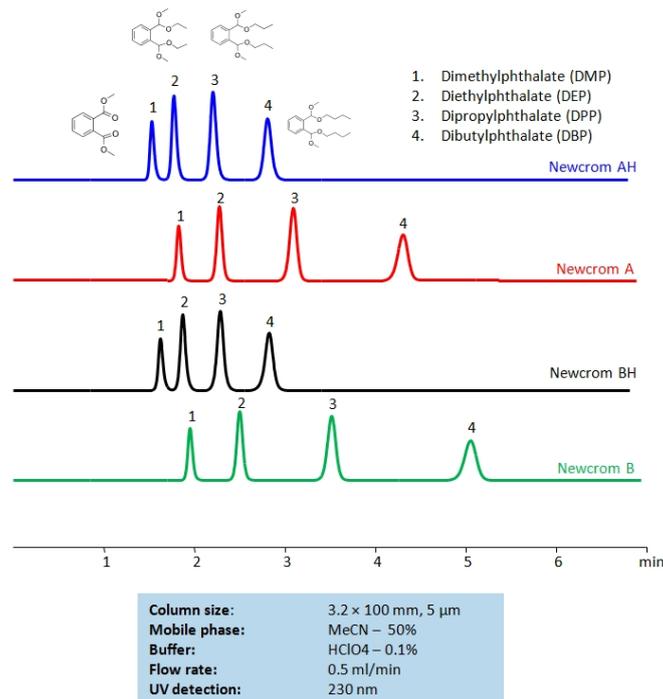


HPLC Separation of Phthalates



High Performance Liquid Chromatography (HPLC) Method for Analysis of Diethylphthalate (DEP) , Dimethylphthalate (DMP) , Dipropylphthalate (DPP) , Dibutylphthalate (DBP) .

Dimethyl Phthalate (DMP) is a phthalate ester with the chemical formula C₁₀H₁₀O₄ . It has a wide variety of uses from being an ingredient in insect repellent to being a part of safety glass and goggles. While it may appear similar to water, it is only soluble in organic solvents and not water. DMP is an irritant to eyes, nose, and throat through inhalation.

Diethyl Phthalate (DEP) is a phthalate ester with the chemical formula C₁₀H₁₀O₄ . It is used as a solvent in perfumes, lotions, and creams. In medicine, it is used as an inactive ingredient for purposes of slowing down the release of active ingredients.

Dipropyl Phthalate (DPP) is a phthalate with the chemical formula C₁₄H₁₈O₄ . It is used to increase the durability elasticity of plastics while also being a solvent for certain chemical applications. While its toxicity is low, it can still be dangerous, considering the risks of phthalates.

Dibutyl Phthalate (DBP) is a phthalate with the chemical formula C₁₆H₂₂O₄ . It is used to increase the durability elasticity of plastics, as well as an ingredient in glues. DBP is an endocrine disruptor, which means that it affects hormone production.

Diethylphthalate (DEP) , Dimethylphthalate (DMP) , Dipropylphthalate (DPP) , Dibutylphthalate (DBP) can be retained and analyzed using the Newcrom A stationary phase column. The analysis utilizes an isocratic method with a simple mobile phase consisting of water and acetonitrile (MeCN) with a perchloric acid buffer. Detection is performed using UV.

The Newcrom columns are a family of reverse-phase-based columns. Newcrom A , AH , B , and BH are all mixed-mode columns with either positive or negative ion-pairing groups attached to either short (25 Å) or long (100 Å) ligand chains. Newcrom R1 is a special reverse-phase column with low silanol activity.

Method Parameters

Column	3.2x100 mm, 5 µm, 100 Å
Mobile Phase	MeCN/H ₂ O – 50/50%
Buffer	HClO ₄ – 0.1%
Flow Rate	0.5 mL/min
Detection	UV, 230 nm

Quelle: <https://sielc.com/hplc-separation-of-phthalates>