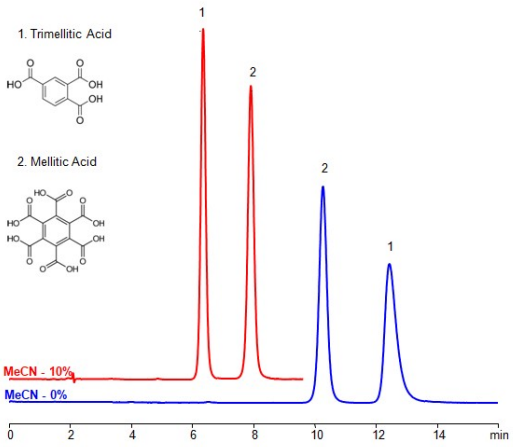
HPLC Method for Analysis of Mellitic Acid and Trimellitic Acid on Newcrom BH Column



Column:	Newcrom BH
Column size:	4.6 × 150 mm, 5 µm
Column part number:	NBH-46.150.0510
Mobile phase:	MeCN/H_2O
Buffer:	H_2SO_4 – 0.1%
Flow rate:	1.0 ml/min
Detection:	UV 220 nm
Injection Volume:	2 µL
Sample:	1. 0.1 mg/ml 2. 0.1 mg/ml
Diluent:	H_2O – 100%
LOD:	1. 14 ppb, 35 ppb 2. 16 ppb, 22 ppb

Separation type: Liquid Chromatography Reversed-phase

Mellitic Acid is an aromatic dicarboxylic acid with the chemical formula C12H6O12. It is a white crystalline solid and is derived from benzoic acid. Mellitic acid is named after mellite, a mineral in which it was first discovered. It is not commonly encountered in everyday use and does not have widespread applications.

Mellitic acid is mainly of interest in the fields of chemistry and mineralogy, and its practical applications are limited compared to other acids.

Trimellitic acid is a tricarboxylic acid with the chemical formula C9H6O6. It is also known as benzene-1,2,4-tricarboxylic acid. Trimellitic acid is used in various industrial applications, including the production of certain polymers and resins. It has three carboxylic acid functional groups, making it a useful building block in the synthesis of materials such as trimellitic anhydride (TMA), which is commonly employed in the manufacture of high-performance plastics. The unique structure and properties of trimellitic acid contribute to its role in specific chemical processes and the creation of specialized materials.

Mellitic acid and trimellitic acid can be retained, separated and analyzed on a reversed-phase Newcrom BH column with a mobile phase consisting of water, Acetonitrile (MeCN), and sulfuric acid. This analytical method can be detected with high resolution and peak symmetry at a wavelength of 220 nm using UV detection

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Method Parameters

Column	Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O
Buffer	H2SO4 – 0.1%
Flow Rate	1.0 mL/min
Detection	UV 220 nm
Sample	0.1 mg/ml
Injection Volume	2 µL

Quelle: https://sielc.com/hplc-determination-of-mellitic-trimellitic