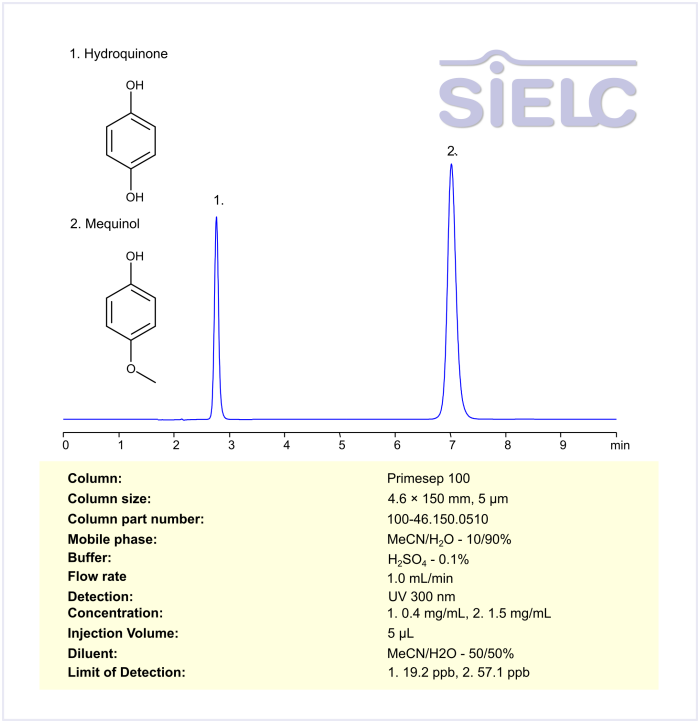
# HPLC Method for Analysis of Hydroquinone and 4-Methoxyphenol (Mequinol) on Primesep 100 Column




| | |
|---|---|
| **Column:** | Primesep 100 |
| **Column size:** | 4.6 × 150 mm, 5 µm |
| **Column part number:** | 100-46.150.0510 |
| **Mobile phase:** | MeCN/$H_2O$ - 10/90% |
| **Buffer:** | $H_2SO_4$ - 0.1% |
| **Flow rate** | 1.0 mL/min |
| **Detection:** | UV 300 nm |
| **Concentration:** | 1. 0.4 mg/mL, 2. 1.5 mg/mL |
| **Injection Volume:** | 5 µL |
| **Diluent:** | MeCN/H2O - 50/50% |
| **Limit of Detection:** | 1. 19.2 ppb, 2. 57.1 ppb |

Separation type: Liquid Chromatography Mixed-mode SIELC Technologies

Hydroquinone (C6H4(OH)2) is a dihydroxybenzene, a type of phenol, with two hydroxyl groups attached to a benzene ring. It functions as a reducing agent and is used in cosmetics to lighten skin by inhibiting melanin synthesis. It is also used in photographic development and as an antioxidant in various industrial processes.

Mequinol (4-methoxyphenol, C7H8O2) is an aromatic compound and a hydroquinone derivative, where one of the hydroxyl groups of hydroquinone is replaced by a methoxy group (-OCH3). This structure imparts similar properties to hydroquinone, allowing mequinol to function as a melanin synthesis inhibitor. It works by disrupting the enzyme tyrosinase, which is crucial in the melanin production pathway.

Hydroquinone , 4-Methoxyphenol can be retained, separated and analyzed using a Primesep 100 mixed-mode stationary phase column. The analysis employs an isocratic method with a simple mobile phase comprising water, acetonitrile (MeCN), and sulfuric acid as a buffer. This method allows for detection using UV 300 nm.

You can find detailed UV spectra of Hydroquinone , 4-Methoxyphenol and information about its various lambda maxima by visiting the following links: UV-Vis Spectrum of Hydroquinone , UV-Vis Spectrum of 4-methoxyphenol .

AugustaChrom - Dr. Roland Kießwetter
Tel.: +49 821 599 783 70
Fax: +49 821 599 783 71
E-Mail: info@hplc-shop.de

## Method Parameters

| | |
|---|---|
| **Column** | Primesep 100, 4.6 x 150 mm, 5 µm, 100 Å, dual ended |
| **Mobile Phase** | MeCN – 10% |
| **Buffer** | H2SO4 -0.1% |
| **Flow Rate** | 1.0 mL/min |
| **Detection** | UV 300 nm |
| **Limit of Detection** | 1. 19.2 ppb, 2. 57.1 ppb |

Quelle: https://sielc.com/hplc-method-hydroquinone-4-methoxyphenol