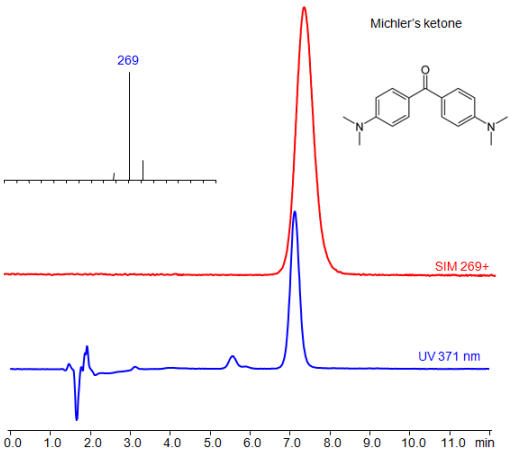
HPLC-MS Method for Analysis of Michler’s ketone on Primesep 200 Column



Column:	Primesep 200
Column size:	2.1 × 100 mm, 5 µm
Column part number:	200-21.100.0510
Mobile phase:	MeCN/H_2O – 50/50%
Buffer:	Formic Acid - 0.5%
Flow rate:	0.2 mL/min
Detection:	UV 371 nm, LCMS SIM 269+

Separation type: Liquid Chromatography Mixed-mode

Michler’s ketone (4,4′-bis(dimethylamino)benzophenone) is a chemical compound used primarily in the synthesis of dyes and pigments. It has the chemical formula C17H17N3O2. The compound is named after the German chemist Viktor Michler, who first prepared it.

Michler’s ketone is synthesized by condensing two equivalents of dimethylaniline with one equivalent of phosgene. The reaction involves the formation of a carbonyl group (C=O) that links two dimethylaniline moieties. The resulting structure features two aromatic rings (benzene rings) connected by a carbonyl group, with dimethylamino groups attached to each aromatic ring.

Michler’s ketone is a valuable intermediate in the dye industry, where it is used to prepare various triarylmethane dyes, including Malachite Green, Methyl Violet, and Crystal Violet. The strong electron-donating properties of the dimethylamino groups make it a useful compound for synthesizing dyes with vibrant and stable colors.

Michler’s ketone can be retained, and analyzed on a Primesep 200 mixed-mode stationary phase column using an isocratic analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and a formic acid as a buffer. This analysis method can be detected in the UV regime at 371 nm.

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Method Parameters

Column	Primesep 200, 2.1 x 100 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O – 50/50%
Buffer	Formic Acid – 0.5%
Flow Rate	0.2 mL/min
Detection	UV 371 nm, LCMSSIM269+

Quelle: https://sielc.com/hplc-determination-of-michlers-ketone-ms