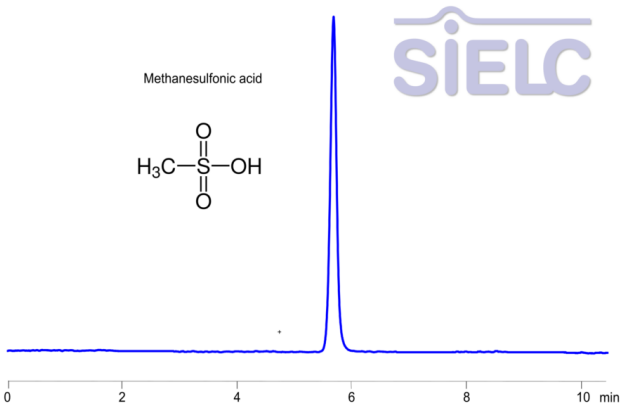
ELSD HPLC Method for Analysis of Methanesulfonic acid on Primesep B Column



Column:	Primesep B
Column size:	4.6 × 150 mm, 5 µm
Column part number:	B 46.150.0510
Mobile phase:	MeCN/H_2O - 40/60%
Buffer:	Ammonium Formate pH 3.0 – 40 mM
Flow rate	1.0 ml/min
Detection:	ELSD
Concentration:	1 µl/ml
Injection Volume:	1 µL
Diluent:	MeCN/H2O - 50/50%
Limit of Detection	10 ppb

Methanesulfonic acid (MSA) is an organosulfur compound with the chemical formula CH4O3Sor structurally CH3SO3H. It is the simplest alkane sulfonic acid, consisting of a methyl group Applications: Catalysis: Used as a strong acid catalyst in organic and industrial chemical reactions, including esterifications and polymerizations. Electroplating: An electrolyte component in electroplating baths, especially for tin and tin-lead plating. Cleaning: Employed in industrial cleaning due to its strong acidity and non-oxidizing nature. Pharmaceuticals: Used in the preparation of certain drugs, intermediates, and active pharmaceutical ingredients. Alternative to Sulfuric Acid: Often preferred in specific applications because it is non-volatile and less corrosive to metals.

Methanesulfonic Acid can be retained, and analyzed using a Primesep B mixed-mode stationary phase column. The analysis utilizes a gradient method with a simple mobile phase consisting of water, acetonitrile (MeCN), and phosphoric acid as a buffer. Detection is carried out using UV.

*LOD was determined for this combination of instrument, method, and analyte, and it can vary from one laboratory to another even when the same general type of analysis is being performed.

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Method Parameters

Column	Primesep B, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN40%
Buffer	Ammonium Formate pH 3.0 – 40 mM
Flow Rate	1 mL/min
Detection	ELSD, the nebulizer and evaporator temperatures 70°C, with a gas flow rate of 1.6 Standard Liters per Minute (SLM)

Quelle: https://sielc.com/hplc-method-for-analysis-methanesulfonic-acid