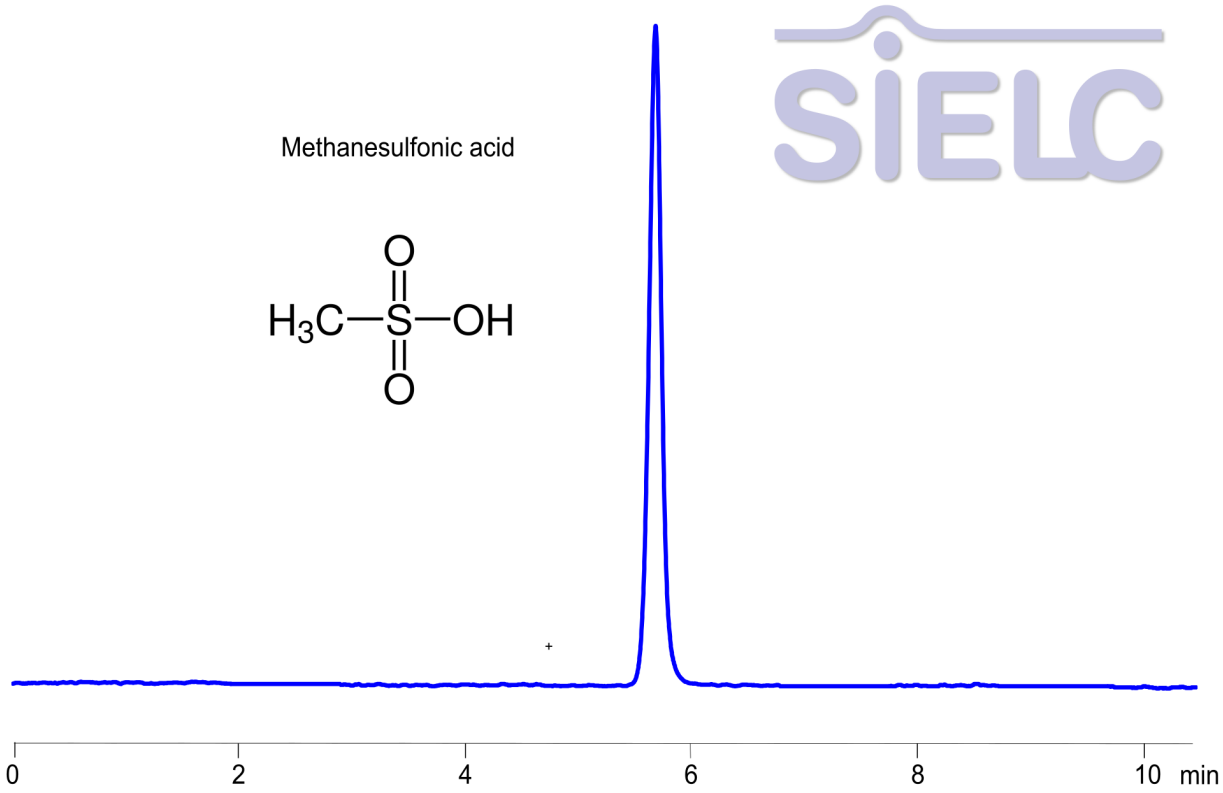
ELSD HPLC Method for Analysis of Methanesulfonic acid on Primesep B Column

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

Chromatogram



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

Description

· HPLC Method for Analysis of Methanesulfonic Acid on Primesep B Column by SIELC Technologies

Methanesulfonic acid (MSA) is an organosulfur compound with the chemical formula CH■O■S or structurally CH■SO■H. 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.

Method Parameters

Mobile Phase	MeCN 40%
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)
LOD*	10 ppb
Class of Compounds	Acid
Analyzing Compounds	Methanesulfonic Acid

HPLC Column Used

Primesep B, 4.6 x 150 mm, 5 µm, 100 A, dual ended

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