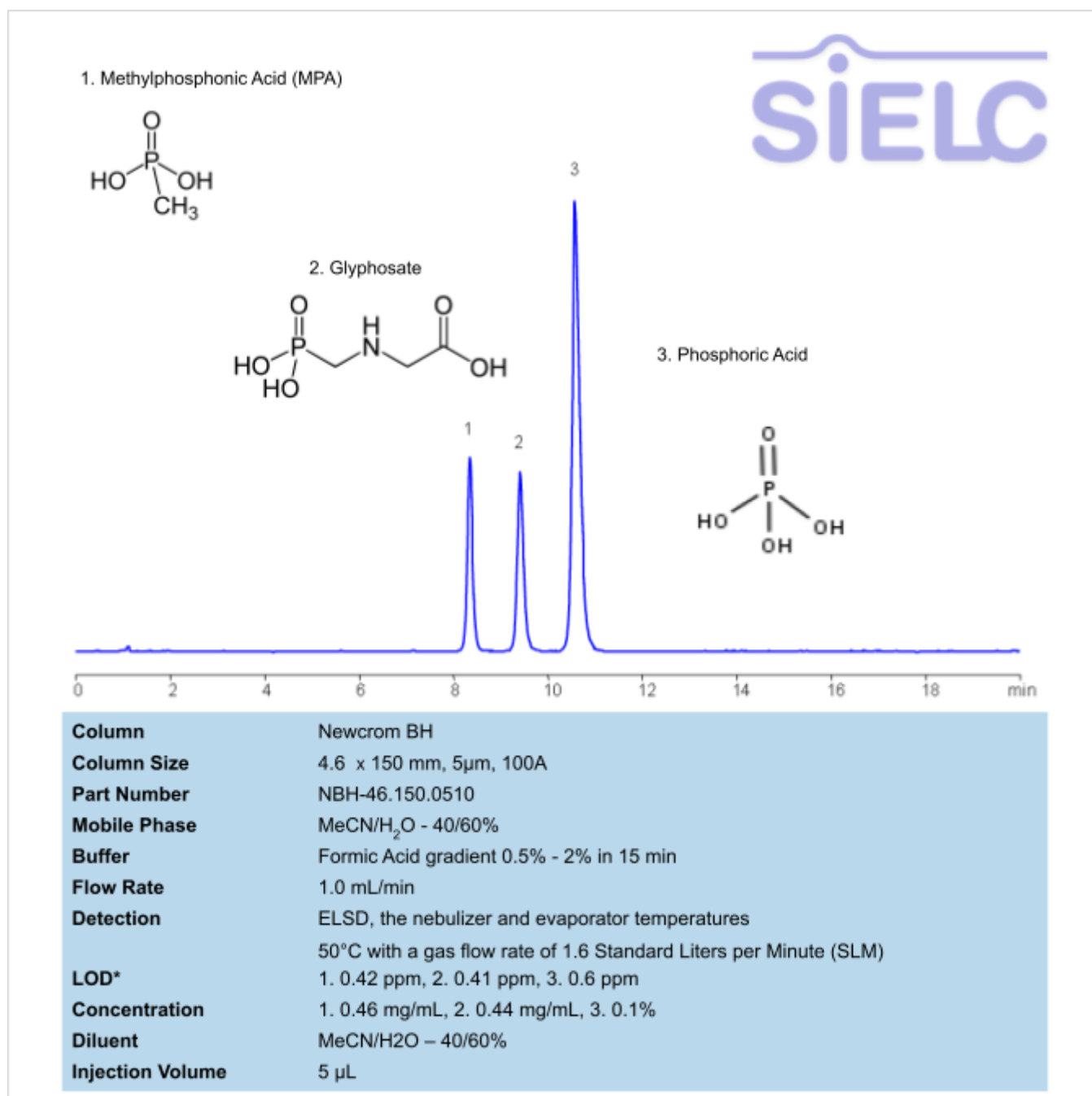


HPLC–ELSD Method for the Analysis of Methylphosphonic Acid, Glyphosate, and Phosphoric Acid Using a Newcrom BH Column

<https://sielc.com/hplc-method-for-mpa-glyphosate-phosphoric-acid>

Chromatogram



Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Methylphosphonic Acid , Glyphosate , Phosphoric Acid

Methylphosphonic acid is an organophosphorus compound with the chemical formula $\text{CH}_3\text{P}(\text{OH})_2$. It is often used in some lubricant additives, textile treatments, and in synthesis of phosphonate compounds, like Glyphosate.

Glyphosate is an herbicide with a chemical formula of $\text{C}_3\text{H}_8\text{NO}_5\text{P}$. It works through blocking enzymes, like 5-enolpyruvylshikimate-3-phosphate synthase, essential for plant growth. It is typically found in agricultural work, but can

occasionally be found in forestry and garden care. You can find detailed UV spectra of Glyphosate and information about its various lambda maxima by visiting the following link.

Phosphoric acid is an inorganic compound with chemical formula H_3PO_4 . It is odorless and colorless, which leads to its common use in soft drinks to help preserve the product. It is also used in fertilizers, metal treatment, and corrosion inhibition. Excessive intake of it is not recommended.

Methylphosphonic Acid, Glyphosate, Phosphoric Acid can be retained and analyzed using the Newcrom BH stationary phase column. The analysis utilizes a gradient method with a simple mobile phase consisting of water and acetonitrile (MeCN) with a phosphoric acid buffer. Detection is performed using UV.

Method Parameters

Mobile Phase	MeCN/H ₂ O – 40/60%
Buffer	Formic Acid gradient 0.5% – 2% in 15 min
Flow Rate	1.0 mL/min
Detection	ELSD, the nebulizer and evaporator temperatures 50°C with a gas flow rate of 1.6 Standard Liters per Minute (SLM)
LOD*	1. 0.42 ppm, 2. 0.41 ppm, 3. 0.6 ppm
Class of Compounds	Herbicides
Analyzing Compounds	Methylphosphonic Acid, Glyphosate, Phosphoric Acid

HPLC Column Used

Newcrom BH, 4.6 x 150 mm, 5 µm, 100 A, dual ended

[Order this column at hplc-shop.de](http://hplc-shop.de) →